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Intrigue of the Past

Discovering Archaeology
in

Colorado

Project Archaeology



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U.S. Department of the Interior
Bureau of Land Management

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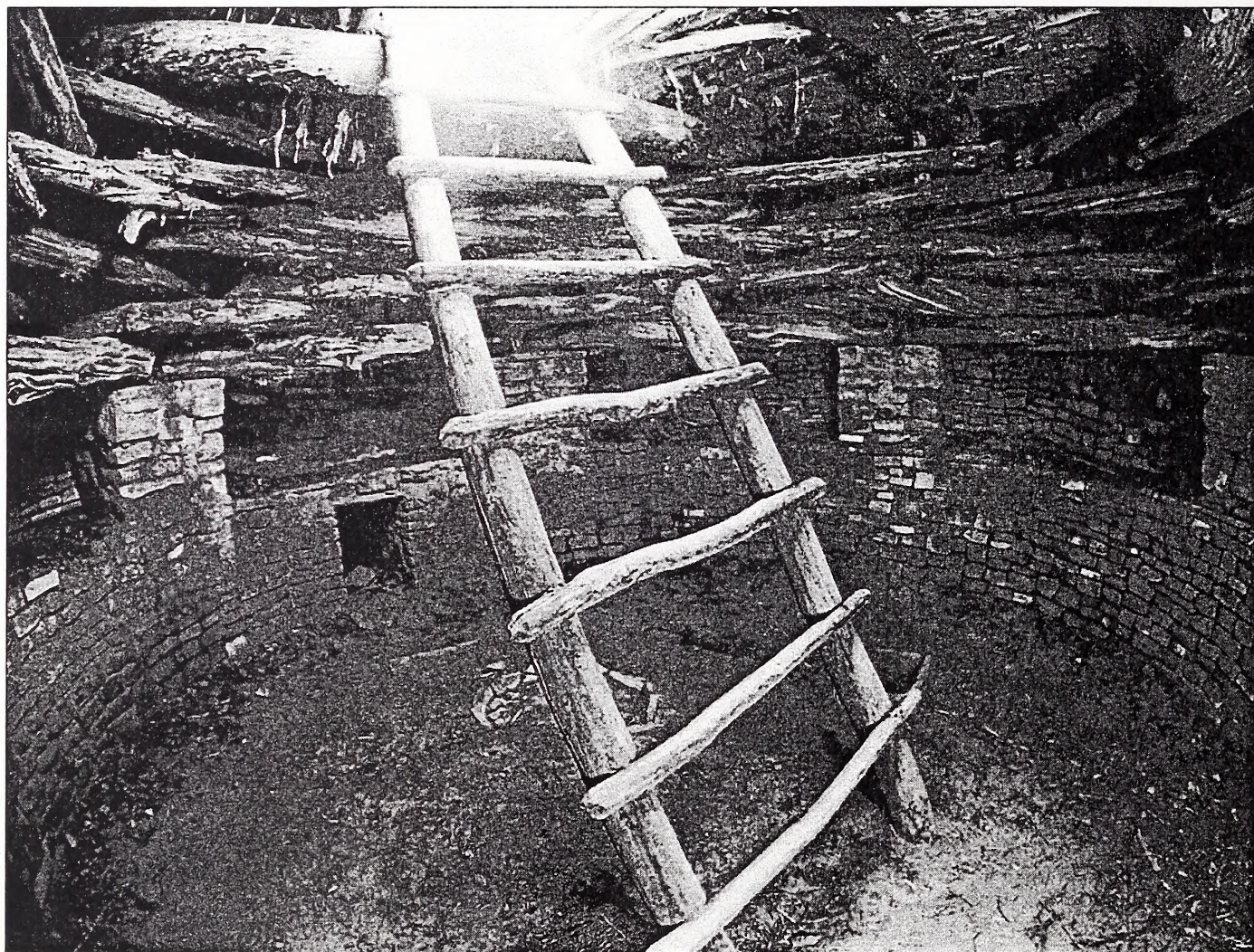
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Interior view of kiva structure at Three Kiva Ruin site near Colorado's western border.

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Intrigue of the Past



**Discovering
Archaeology
in
*Colorado***

**U.S. Department of the Interior
Bureau of Land Management
Heritage Education Program**

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Intrigue of the Past: Discovering Archaeology in Colorado

A project of the

U.S. Department of the Interior, Bureau of Land Management, Heritage Education Program in partnership with the Colorado Historical Society, the Southwest Board of Cooperative Services, Cortez, and the San Juan Board of Cooperative Services, Durango.

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Introduction

I*ntrigue of the Past: Discovering Archaeology in Colorado* is part of the Bureau of Land Management's (BLM's) Project Archaeology program for teachers. In 1991, BLM embarked on its Heritage Education Program to educate young Americans about their nation's rich cultural heritage and the need to preserve and protect it. Project Archaeology is the cornerstone of this program.

The ultimate goal of Project Archaeology is to educate students to take responsible actions toward our archaeological heritage. The fragile record of our past is increasingly threatened throughout the world. Archaeologists, public land managers, and concerned citizens see education as a primary means of reversing this trend.

The need to understand the past, to know about our ancestors or about others who have lived on this land before us, is universal. The study of archaeology leads to a greater understanding of the past, a better understanding of the present, and better prepares us for the future. Archaeological studies give us information about past environments, human interaction with those environments, and environmental change. This information helps us in planning and managing for future environments.

Studying the past gives us a sense of place and connectedness in a fast-changing world. There is a comfort in connecting with people and places gone by. At-risk students often lack this sense of place, especially if their family is very mobile or they are cutoff from their extended family. A study of past peoples and places can help them connect to the idea of a past, even if it is not the specific past of their people.

BLM manages approximately one eighth of the United States or 270 million acres of public lands, primarily in eleven western states. There are an estimated five million cultural sites on those lands. However, only 9.9 million acres (15,468 square miles) have been surveyed archaeologically. This is equal to a 5.5-mile wide swath stretching from Washington, D.C. to San Francisco.

BLM archaeologist John Douglas calculated that "If 150 archaeologists did nothing else but inventory, including field survey and recordation and records maintenance, each one could average maybe 1,000 acres per month, year round. This would total 150,000 acres per month, or 1.8 million acres per year. At that rate, the 270 million acres of BLM lands could be inventoried (first time around) in about 150 years. Of course the work those archaeologists are doing now would not get done, unless BLM hired another 150 archaeologists."

Since the Bureau can't afford to hire 150 archaeologists for 150 years, we must depend on you—the Public, and especially teachers and future generations they teach—to help us preserve and protect the Nation's past. Sites on public lands are being vandalized at an alarming rate. We can't monitor every site 24 hours a day, 365 days a year. However, a committed public can help us control the looting.

BLM's Project Archaeology program is designed to introduce archaeology into classrooms. Classroom-tested lessons in archaeology are presented in *Intrigue of the Past: A Teacher's Activity Guide for Fourth through Seventh Grades*. Student materials and state-specific information are contained in *Intrigue of the Past: Discovering Archaeology in Colorado*. Each interdisciplinary lesson may be used singly to enhance and supplement other curricula or together they can form a separate curricular unit.

Intrigue of the Past: Discovering Archaeology in Colorado is a product of many individuals. Dr. Frederic Athearn, the now retired Colorado BLM State Cultural Lead, organized a group of BLM cultural specialists who first envisioned this volume. Together Patricia Walker-Buchanan, Doug Bowman and Dr. Athearn authored most of the volume. Later Dr. Tito Naranjo, Dr. Bruce Bradley, Maxine McBrinn, Margaret A. Heath, and Karen Jackson Laubenstein added more information.

For their assistance with the Ranching chapter, I especially thank Julie Coleman-Fike and her uncle, Jack Coleman, who helped me find out the name of the Beaverslide Haystackers and graciously went out and photographed one on the spur of the moment. Frank Murphy of Steamboat Springs provided confirmation that Beaverslides were indeed used in the Steamboat area. I also want to thank everyone else who helped me on my quest for information: Evelyn Simmons of Dolores, Mac McGraw and the staff of the museum in Gunnison, BLMers Bob Ball, LouAnn Jacobson, Harley Armstrong, Judy A. Prosser-Armstrong, Mike Selle, Bob Elderkin, Leon Lujan, and Jim Rhett; and Mark Tucker and Cliff Stewart of the U.S. Forest Service, and the Museum of Western Colorado.

I want to thank our partner the Southwest Board of Cooperative Services, and especially John Bryant, Kim Clemensen, and Melissa Bruner for their patience with meshing the rules of three governmental entities! We are very grateful for their help.

The Colorado Historical Society State Historical Fund provided the final funding for printing this volume. Estella Cole and the rest of the staff do an outstanding job helping people get through the grant process from beginning to end.

Crow Canyon Archaeological Center, especially Sara Kelly, provided the expertise to develop a Resource Guide available over the World Wide Web. This will provide Colorado teachers with up to date information about resources for teaching children about the past.

Wayne Rice, Visual Information Specialist for the BLM Imagination Team, designed the print and CD-ROM publications and obtained the graphic art and photographs. Cynthia Ramsay assisted with many other tasks, large and small. Carolyn Goff designed the Lesson Plans and came in during the summer to give us some last minute help. Roy Paul assisted with the editing and added final touches

through copy editing and mastering the *Discovering Archaeology in Colorado* CD-ROM. Karen Jackson Laubenstein worked her editorial magic in making chapters come to life for children.

The Anasazi Heritage Center Staff is ever patient with our projects and deadlines. I am grateful to LouAnn Jacobson for taking time from her busy schedule to read this book. I would like to thank everyone who has given us encouragement and information. *Intrigue of the Past: Discovering Archaeology in Colorado* is truly a product of the efforts of many people.

We sincerely appreciate all the hours of hard work everyone put into this publication.

Margaret A. Heath
Bureau of Land Management
Heritage Education Manager

Introduction to Educators

Project Archaeology is designed to teach students about America's rich cultural past and what actions they can take to preserve and protect it. Designed for teachers to reproduce for their own classrooms, the materials can be used to supplement an existing curriculum or as a stand-alone curricular unit.

Archaeology lessons are found in *Intrigue of the Past: A Teacher's Activity Guide for Fourth through Seventh Grades*. This set of twenty-eight lessons is divided into three sections: "Fundamental Concepts," "The Process of Archaeology," and "Issues in Archaeology." The lessons are cross-referenced and keyed into Bloom's Taxonomy and Colorado State standards.

Intrigue of the Past: Discovering Archaeology in Colorado is the second component of *Project Archaeology*. This volume is designed to provide student materials that are difficult to find in generic textbooks. Specifically the topics of focus are prehistoric archaeology and four historical archaeological themes: railroading, mining, homesteading, and ranching, that encompassed the experiences of all the immigrants into the state.

Like those in the teacher's guide, the lessons in *Discovering Archaeology in Colorado* are cross-referenced and keyed in Bloom's Taxonomy. It is intended to be a companion book to the teacher's guide. Neither volume includes lessons on mock digs. While these can be valuable learning experiences, we encourage teachers to use them with extreme care. Mock digs may inadvertently teach that digging is OK anytime, anywhere. However, when used carefully in conjunction with *Intrigue of the Past* lessons, mock digs, laboratory lessons, and reports teach children experientially a great deal about the scientific process.

Remember that conducting a dig at a real site on public lands is illegal unless it is done with a federal or state permit. If you are tempted to begin a dig yourself on private land, we urge you to contact a local archaeologist or archaeological society. Every site contains valuable information that will be lost forever if it is not properly retrieved and reported. Prehistoric sites are sacred to many Native Americans and care must be taken not to violate sacred places.

You may have received these materials by attending a *Project Archaeology* workshop. If this is not the case, you have only one piece of the complete program. Workshops allow you to experience the activities firsthand, to ask questions and exchange ideas with teachers and archaeologists. Workshops provide current information about archaeology in your area. State, county, and municipal preservation laws and ordinances may affect projects you are planning with your students. Workshops can inform you of this possibility and suggest means to facilitate your project. To find out about workshops in your area, contact the Heritage Education Team, Bureau of Land Management, Anasazi Heritage Center, P.O. Box 758, Dolores, Colorado 81323, (970) 882-4811, or e-mail: ProjArch@co.blm.gov.

How to Use This Book

D*iscovering Archaeology in Colorado* is designed to be reproduced for classroom use by students. Please reproduce the desired quantities of the chapters and lessons that you wish to use. **If you want to use these materials for some other purpose, please contact us first.** Always list our publication, title, and author of the piece you use and give our address.

Grade level: *Discovering Archaeology in Colorado* is written at a challenging fourth grade reading level. It is appropriate for 4th grade students and above.

Boldface words from the text are contained in the word list at the end of each chapter and in the Student Glossary. Words are printed in boldface and defined the first time they are used.

ALL CAPS in the text indicates the word or idea is treated in a side bar on or near that page.

Lesson Plans: Lesson plans are contained in Appendix 1. Each is organized similarly to the lessons contained in *Intrigue of the Past: A Teacher's Activity Guide for Fourth Through Seventh Grades*. At the beginning of each lesson plan are suggested links to other chapters in *Discovering Archaeology in Colorado* and to lessons in the teacher's guide.

References: Appendix 2 lists the references used in producing *Discovering Archaeology in Colorado*.

Resources for Teachers: Appendix 3 is very valuable for educators who are trying to enrich their offerings to students. In order to provide you with the most current information, the Bureau of Land Management in partnership with the Crow Canyon Archaeological Center, makes a Colorado Heritage Education Resource Guide available to you through the Internet. The site address is:

<http://www.crowcanyon.org/>

It is a compendium of museums, archaeological sites, government agencies, and other resources that teachers may find useful in conducting archaeology lessons.

Evaluation: We are interested in hearing from you. Please complete the evaluation and return it to us. *Your opinion counts!* We will refer to evaluations when we revise the book.

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Footprints of the Paleo-Indian Period

by Patricia Walker Bartholomew
with Illustrations and Commentary by James A. Bradley

Intrigue of the Past **Discovering Archaeology** in *Colorado*



Keet of the Paleo-Indian Period

by **Patricia Walker-Buchanan**

with Introduction and Conclusion by **Bruce A. Bradley**

OVERHEAD, THE STARS in the dark, warm, night sky twinkled brightly—stars so close you felt like you could reach out and touch them! Ron's family was camping at this campground along with many other families in the Colorado mountains. They had spent several days attending the **pow-wow**, with storytelling, dancing, and special foods, music and special clothing.

An elderly couple from a pueblo, or village, in New Mexico sat next to Ron, rocking their grandchildren on their laps. The grandparents began singing their favorite pow-wow songs.

Drawn by the singing, other families slowly gathered around the small fire. Soon, everyone joined in with the pow-wow songs. Then they began singing some other campfire songs, such as "Clementine" and "If I Had a Hammer." Ron sang along, too. After a while, there was a pause in the singing.

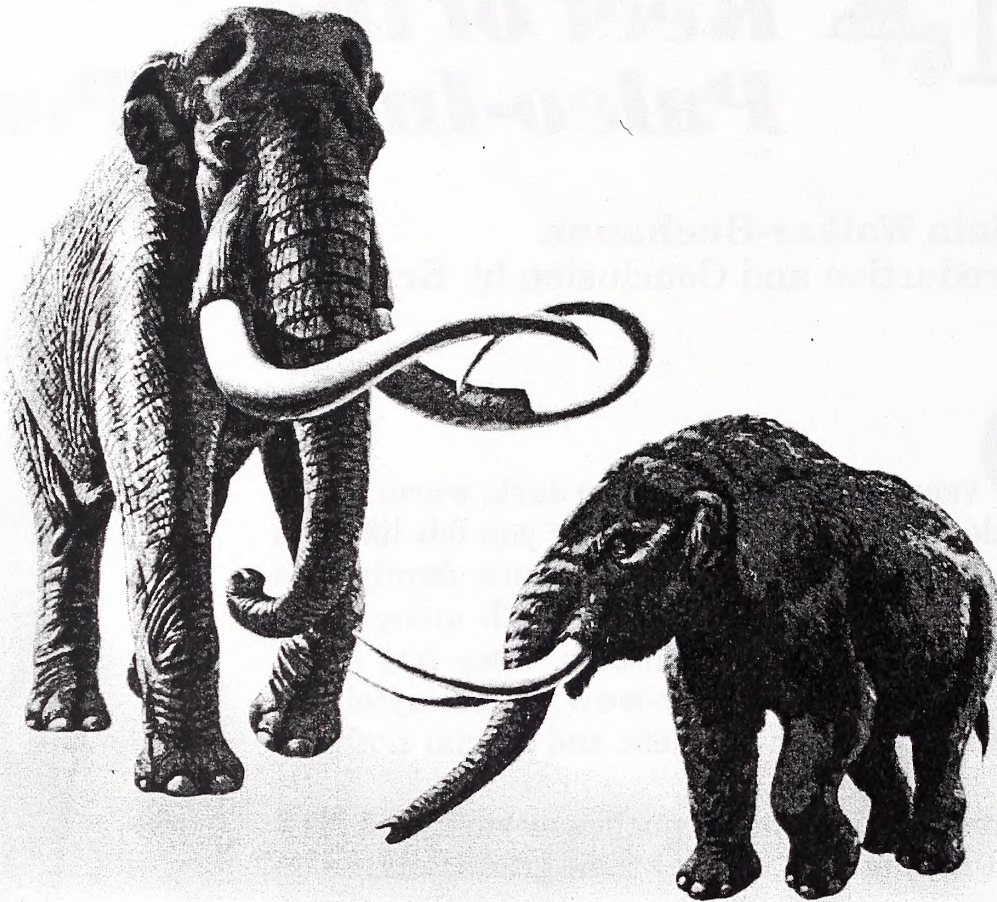
"How were the stars created?" a little girl next to Ron asked her grandparent.

"The stars? Let me tell you about 'The Origin of All Things,'" the grandparent said, beginning a story. Everyone listened. As the grandparent told the story, something magical happened! Other people, from other backgrounds, added their own beliefs and explanations for how things began.

To Ron's surprise, everyone told different stories! There wasn't just *one* story of the origins of all things. People believed in different creation stories. When the grandparent's story reached the creation of people and tribes, others added what they believed.

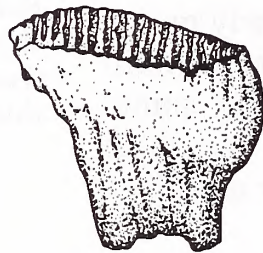


Hell Gap style stone point. In this story, Keet's people would have used points like this one.

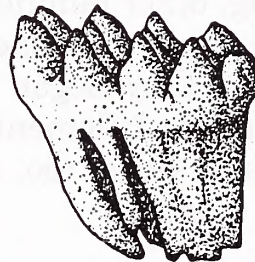


Mammoth

Mastodon



Mammoth tooth

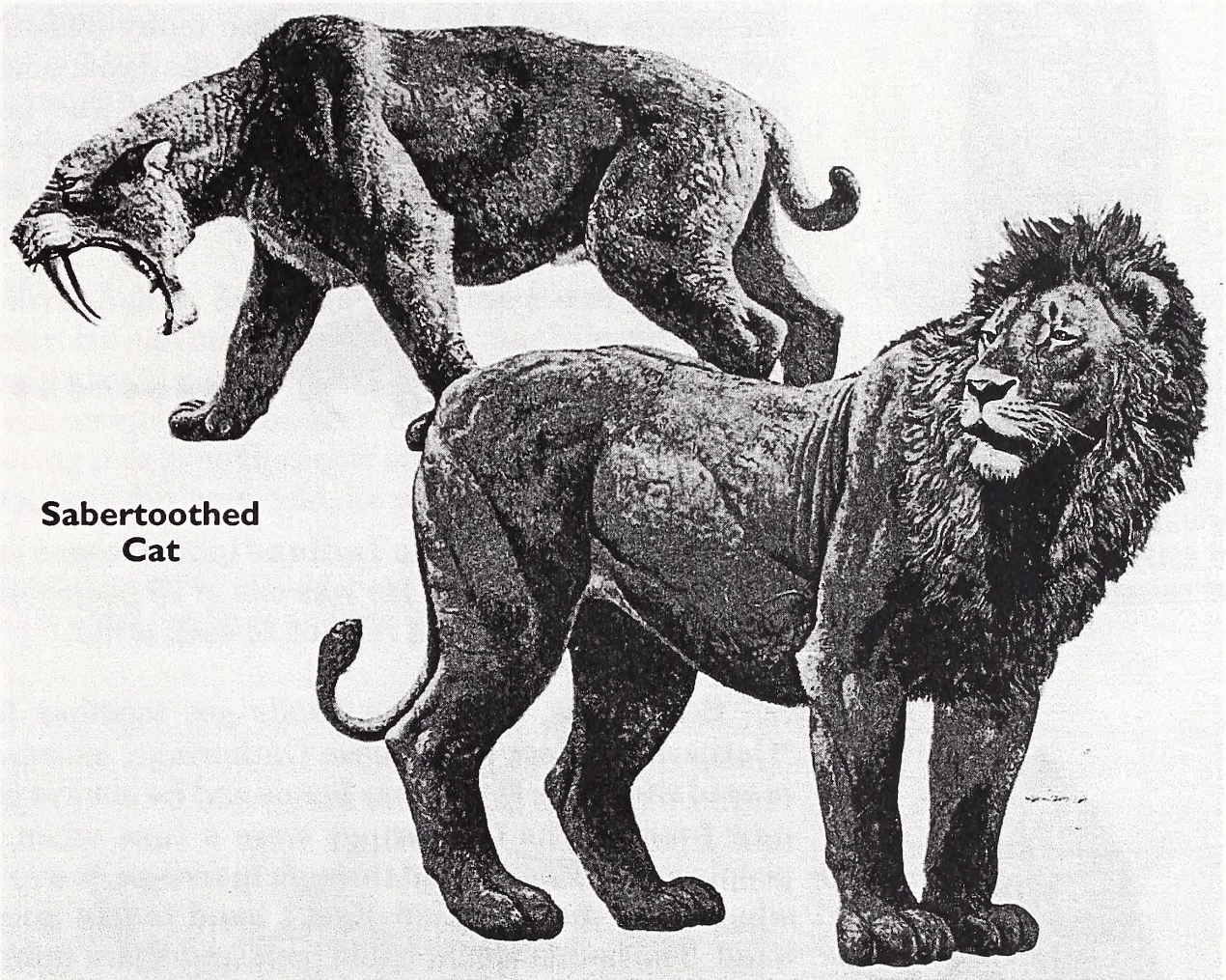


Mastodon tooth

Which tooth would be best for chewing grasses?

There Were Many Strange and

The mammoth tooth's flat surface worked best for grinding up grasses. The Columbian mammoth stood 12 to 14 feet tall and weighed at least 10 tons! It had less hair than its arctic cousins, the woolly mammoths. Early Paleo-Indians hunted mammoths in Colorado. The mastodon's cone shaped teeth were good for munching on branches and twigs. Mastodons were shorter and stouter than mammoths. Scientists found mastodon remains in Utah and Arizona but not in Colorado.

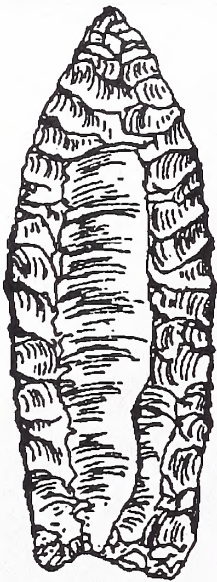


**Sabertoothed
Cat**

American Lion

Wonderful Animals on the Land

Both the sabertoothed cat and American lion roamed Colorado, especially on the front range. The American lion was related to today's African lion, but was larger. It was built for speed. The sabertoothed cat was about the size of today's African lion. Its build is stocky — good for springing on its prey. Both are extinct today. Neither was hunted by Paleo-Indians. Both disappeared about 11,000 years ago.



Folsom Point. Many prehistoric hunters in Colorado used points like this to hunt large animals.



Clovis Point. A large group of these points was found in Colorado. A Paleo-Indian hunter had left them for safekeeping and never returned.

“The first people moved across the land following the great animals like mammoths,” said the grandparent, or elder. “After creation, the first people came from the north and explored their new world. They lived on the bounty of the land. There were many STRANGE AND WONDERFUL ANIMALS on the land, some in small groups and others in huge herds. The people learned new hunting skills and the prayers brought success in their quest for food. Let me tell you about Keet and the Great Bison hunt.”



Keet's band of **Paleo-Indians** (*paleo* means old in Greek) was a large one. He was one of 19 people in the band, almost all of them related to each other.

Sometimes, all of the bands got together for a “Gathering.” Keet liked these Gatherings, because he played with boys from other bands and he always made new friends. The Gatherings were a time when new people joined Keet's band through marriage. It was also when some members left Keet's band to join another band. The bands would trade tools and share information with each other about all sorts of things, like animal herds, river crossings, or news of other bands. These Gatherings were an important time for everyone. Sometimes they even held a Gathering to hunt large numbers of the GREAT BISON. However, most bison hunts were smaller and done by one band alone.

Like today! Today was a big day for Keet's band! Today was their great bison hunt, and it was very cold. This was the first time Keet could help with the big bison hunt! Keet wanted to be extra careful and to do everything right. He knew that if he did his job right today, then he could help with the next hunt, too!

Though he was excited, Keet hadn't expected to feel so cold! The wind came straight from the west, driving icy cold snow against Keet's face and neck. Shivering, Keet pulled the small strip of bison skin up higher. His

neck-warmer provided some protection from the wind.

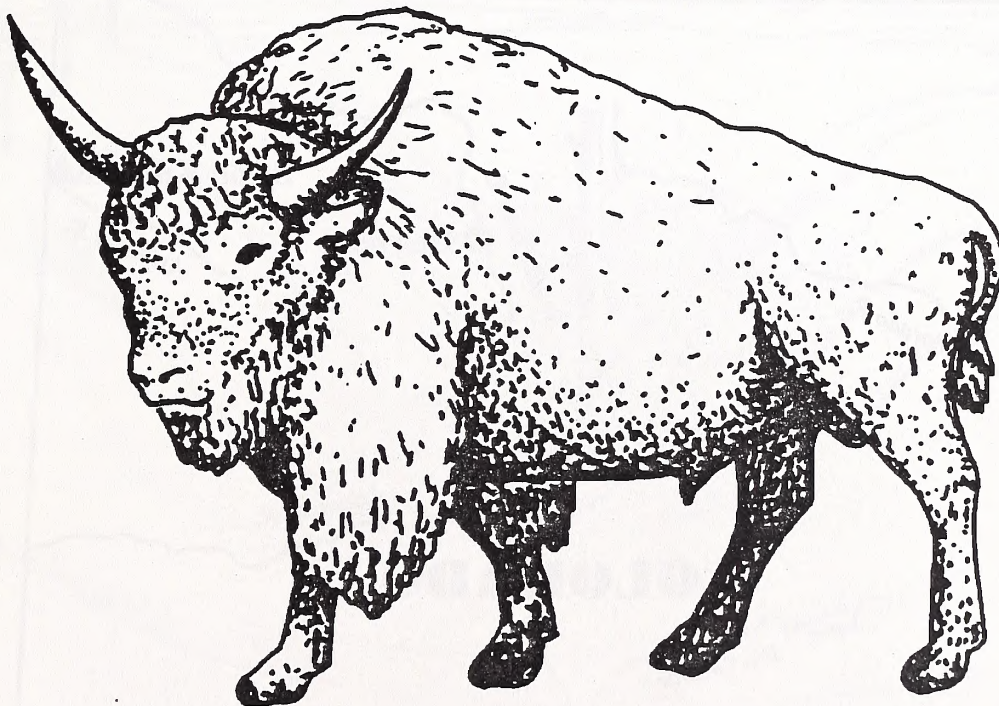
Great bison were very important to Keet's band. The animals provided most of their food, clothes, and tools. To Keet, the bison were awesome creatures—big and scary! Keet learned that not all of the bands followed the great bison herds on the plains like his band did. Other bands roamed in the mountains and hunted ELK and deer instead of bison.

Brrr! Again, Keet tugged on the bison skin neck-warmer. He had made the neck-warmer himself, hoping it would give him more warmth and protection from the cold winter storms. However, he was having a hard time adjusting it to keep the snow off his neck! Keet yawned. He not only felt very cold, he was tired too.

Earlier this morning Keet awakened in the dark with his older brother and the other hunters. They had



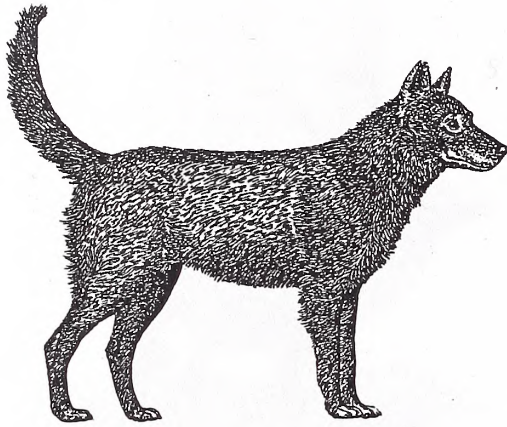
Elk still live in Colorado.
Other bands hunted elk.



The Great Bison or *Bison antiquus* was much larger than today's bison and had straight rather than curved horns. Keet's band was hunting *Bison antiquus*.

to get up very early to prepare for the big hunt! Everyone had an important job to do.

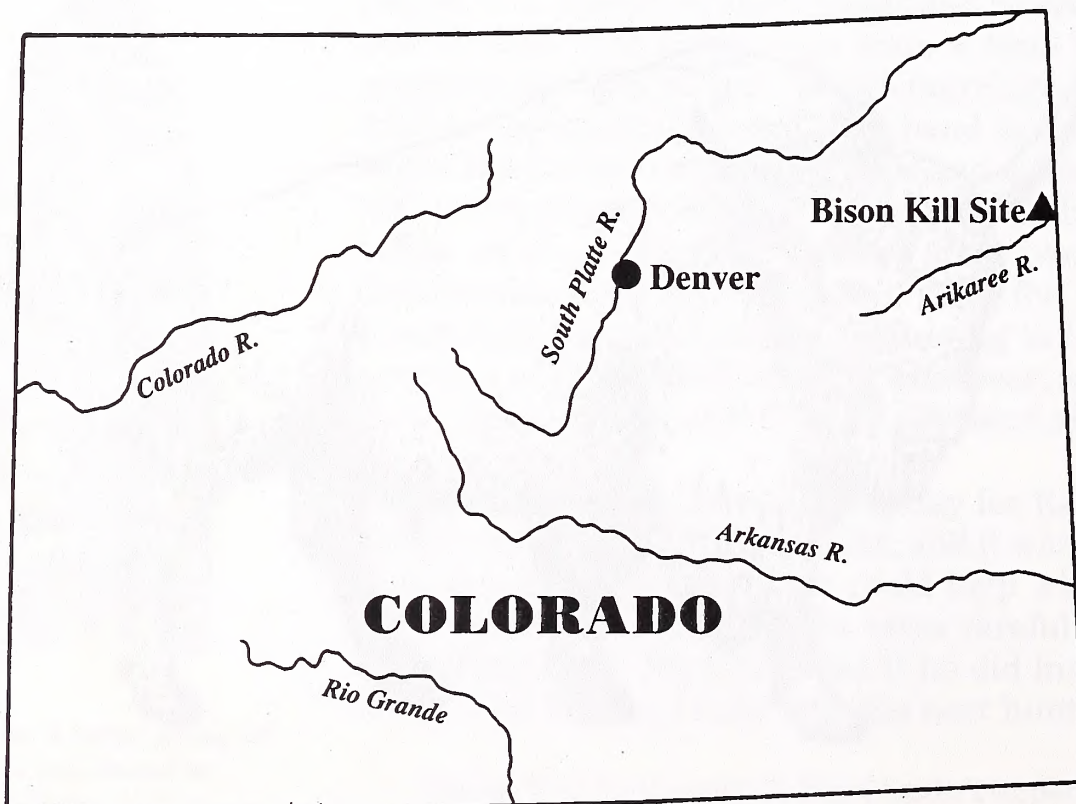
Keet felt proud to be in the hunt! He knew the other boys his age were helping their sisters and the women back at the camp. The camp had to be ready for the large amounts of meat and skins that the hunters would bring from the hunt.



Wolf. Keet had made a pet of a wolf pup.

Not only was Keet hunting with the men, but he had also a special role. This time was special because of his dog. Keet's dog was involved in the shaman's ceremony for their hunt! It was a great honor!

Keet had found the wet, cold WOLF pup three springs ago. He had watched for two days to see if the pup's mother would come back. He soon realized the pup's family had left him behind, so Keet rescued and cared for the pup. Soon, his pup was healthy again and quickly became his friend. Together, they had hunted for small animals. In the summers, they had searched



Bison kill-site location map. The story is based on archaeological finds at the Jones-Miller Site.

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Denver, Colorado

the grasses of the wide plains. In the winters, they had roamed the forested hills.

Keet's pup grew into a large wolf and helped the whole band! The wolf barked warnings when big animals came too close, especially during the night. The wolf kept Keet's feet warm at night. He helped Keet find small animals to catch for food for his family. Keet loved his wolf!

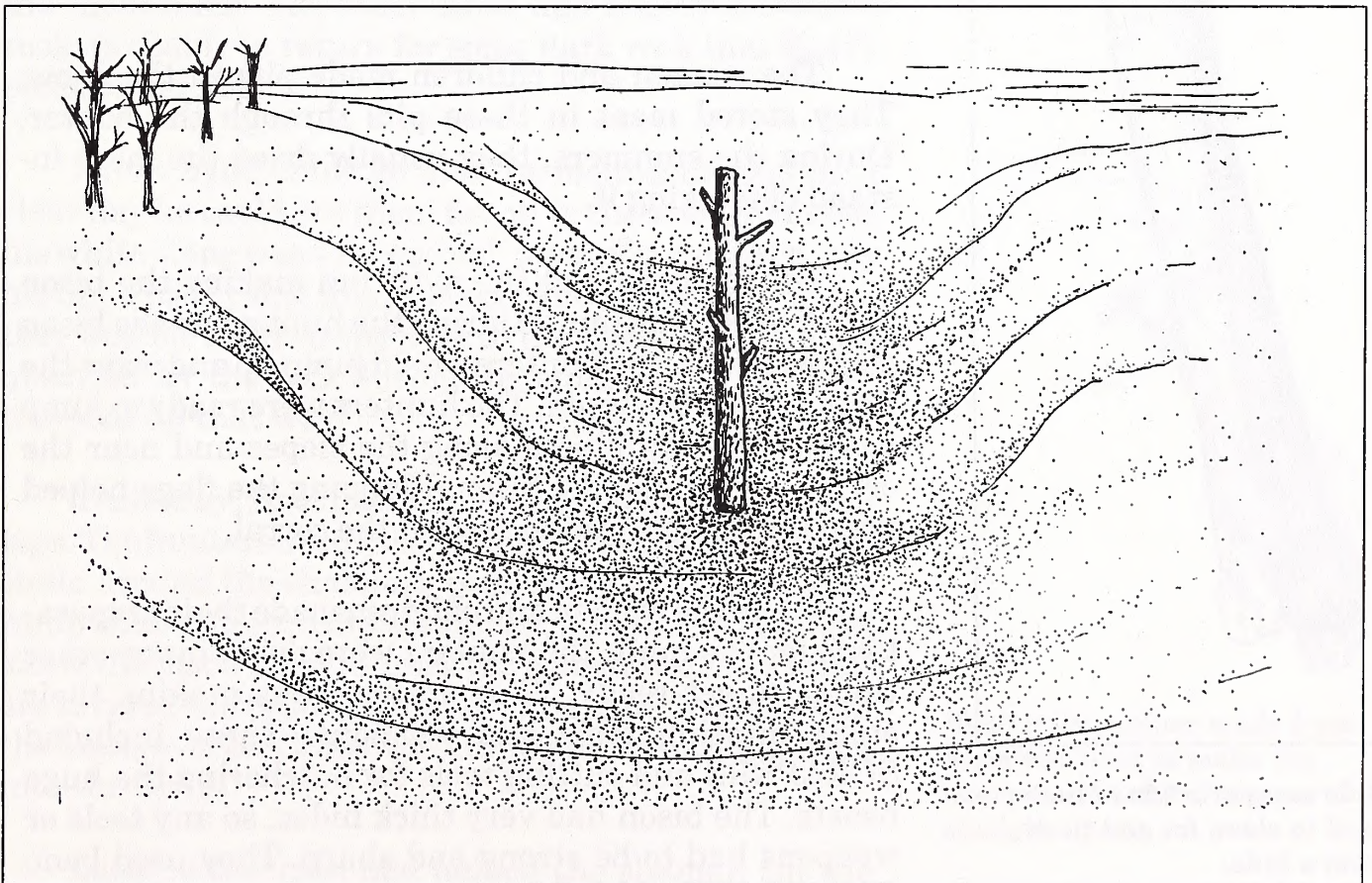
Then tragedy struck. A BEAR killed the wolf. Keet was very sad. He wanted always to remember his friend, so he saved a bone from the wolf's front leg.

And now, the **shaman**, or holy man, of his band, would use this very leg bone—to call the wild animal spirits! Only the shaman had the power to call the spirits and perform the special acts or **ceremonies**. Keet knew the animal spirits would bring good luck to the bison hunt!

He looked at the shaman. The man clung to a spot



The Black Bear can still be seen in Colorado, although most are very shy.



Paleo-Indian bison kill site, similar to the Jones-Miller Site and to the site in Keet's story. The Shaman probably climbed a POLE to call the wild animal spirits.

high up on a POLE, not far from where Keet sat waiting for the bison. The shaman stood on stubs of the pole's broken branches, like footholds on a ladder.

When the bison came, Keet knew the shaman needed to hang on very tightly to the pole. The ground would shake from the bison's thundering hooves pounding on it. Keet thought the shaman almost *looked* like a bison! Although his deerskin clothes were like everyone else's, he also wore a bison cape over his shoulders. Best of all, he had bison horns on his head!

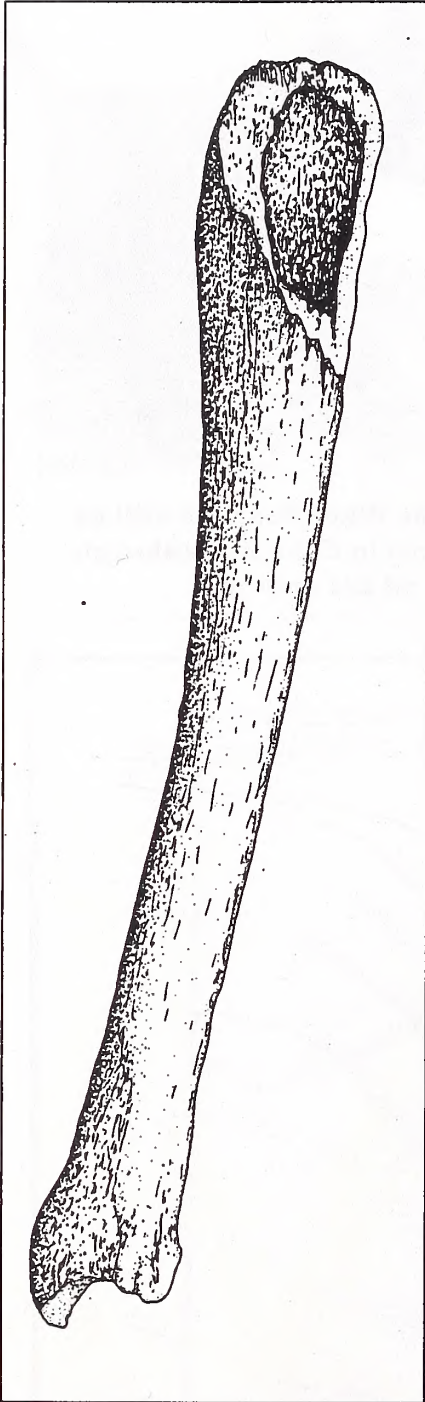
The shaman must be really cold, Keet thought. He was up there on the pole in the cold wind! However, the shaman was busy praying to the animal spirits for good luck with the hunt. He didn't seem to notice the cold.

For weeks, the band had been very busy getting ready for the bison hunt. The women made sure everyone had enough clothes to stay warm. They gathered their tools together for skinning the bison and for cutting the meat. They also collected wood for the cooking fires.

The women and children made pits in the snow. They stored meat in these pits through the winter. During the summers, they usually dried the meat instead of freezing it.

The children had the most fun making the bison skin flags for the hunt. During the hunt when the bison started to run, the hunters would jump up and wave the flags to herd the bison. The hunters were ready to jump out from hiding places along the slopes and near the corral to surprise the bison. Flapping the flags helped keep the bison running toward the corral.

While the women and children made their preparations for the hunt, the hunters were doing many other things to get ready. They spent weeks making their stone hunting tools and weapons. These included SCRAPERS and cutting tools for butchering the huge beasts. The bison had very thick hides, so any tools or weapons had to be strong and sharp. They used bone SHAFT STRAIGHTENERS to make spear shafts straighter.



Hide scraper made of bone used to clean fat and flesh from a hide.

Besides having thick hides, Keet knew that the bison were very big. Most of the bison stood taller than any of the men in Keet's band. Even Keet stood only as tall as the bison's legs!

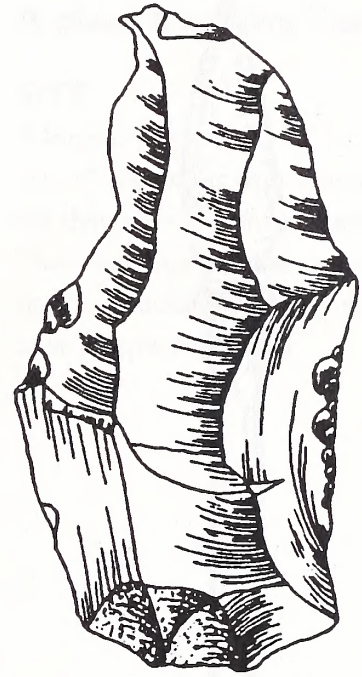
The hunters needed many spears to make them fall. The hunters created sharp **POINTS** (page 1-1) for tips of their **SPEARS**. Keet thought that the spear points were very beautiful. Each spear point was specially made. Only a few hunters knew the tricks of working stone into spear points. It was very hard to finish the points without breaking them. The points had to be very long and thin, so they would break through the bison hides. Every one hoped that each spear would sail into a bison.

Keet had saved a **FLAKE**, or small piece of the rock, that the hunters had thrown out when they were making the points. The rock was white, with snow-white spots on it. When he found the white rock, Keet wondered where it had come from. A hunter explained another band dug, or **quarried**, for the white rock in the mountains. The other band had traded the white rock, probably in return for some dark rock that Keet's people quarried.

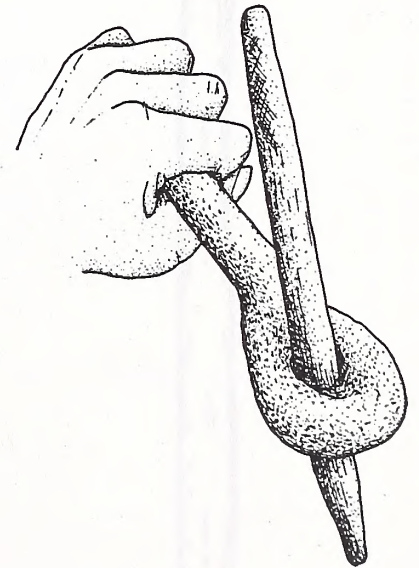
Keet's band didn't go into the mountains, but on a clear day he could see them far off to the west. Keet felt his white stone was very special. Most of the darker rock his band used came from a place called a **quarry** where they dug for rocks in the hills to the north. Keet's band quarried for the rock during the summers, when they traveled up that way.

Yesterday, Keet had helped to gather branches and logs. The hunters used these to build the corral in a large circle around the shaman's pole. They had also built a ramp leading from a dry streambed, into the corral. Keet knew the bison liked to cross the streambed. The hunters covered the ramp with snow. The snow hid it so that the bison wouldn't know the hunters were herding them into the corral.

Later, a few men had helped the shaman cut the center pole into the right shape for the ceremony. They put it up in the corral sometime during the night, when



Stone flake. "Flakes" like this are left over from making stone points and knives. Sometimes flakes were made into tools also.



Shaft straightener made from bone was used to make the short "foreshaft" of a spear straight.



Spear made from a wooden shaft and stone point.

Keet was sleeping. Once the pole was up, the shaman climbed up it. That was the last thing to be done to prepare for today's hunt.

Keet looked out over the streambed for some sign of the bison. It wound down the slope into a bigger creek they called the *aricka*. The larger creek always had flowing water in it and provided drinking water. However, Keet thought the creek water wasn't as sweet or cold as the spring water they camped near in the summers.

Once last night, Keet woke up and thought he'd heard the shaman playing music on his bone flute. Keet liked the strange and beautiful sounds of the flute! The shaman played his flute or sang verses to make the magical songs. Preparing the offerings, or gifts to the gods, and making the songs took a long time. The shaman also had to make sure the band made the proper offerings. Keet thought this must be part of the reason the shaman started his ceremony alone at night. Next time, Keet promised himself, he would try to stay awake all night to listen for the songs of the shaman.

Keet rubbed the spotted white stone in his pouch. He hoped the bison would come soon.

Keet's band was always following the big bison herds, even in winter. Keet looked slowly around him now, thinking how the low hill gave them shelter for the winter. The hill protected them from the winds, which were sometimes fierce. The winds would blow down from the mountains and across the plains into their camp.

All around Keet were low hills and ridges dotted with tall green pine trees. With the coming winter, the grasses were dry and yellow and heavy. They bent over toward the ground, covered with sparkling frost. Keet was glad the snow had not yet begun to stick to the cleared ground where he was hidden next to the corral.

Suddenly, the shaman raised his feathered stick! He said something, but Keet could not hear what the

words were. Hundreds of bison feet thundered on the earth, shaking the ground and roaring in his ears. He couldn't even hear the shouts of the hunters chasing the bison! They waved their flags, herding the running the bison toward the corral.

Keet's heart was beating fast now! The earth trembled even more as the bison ran his way. Keet had to be ready!



Ron's mom, an **archaeologist**, who studied past cultures, added, "This story reminds me of a Great Bison kill **SITE** in Eastern Colorado. We found a place where ancient hunters had once driven huge bison into a depression. The hunters killed the bison with large, beautiful spear points. There were many animals, so we know the hunt was surely successful!"

"In the middle of the great bison bones," she continued, "we found where a wooden post had been set. At the bottom of the post, we found a small bone whistle and a tiny spear point. We thought that a priest had probably climbed the pole and dropped the objects." Ron closed his eyes, thinking again about the pole, the whistle, the Great Bison hunt . . .

"My people come from the far north in Canada," added another person. "And this is the way our grandfathers hunted buffalo in the winter."

Ron couldn't wait to hear more! ♦

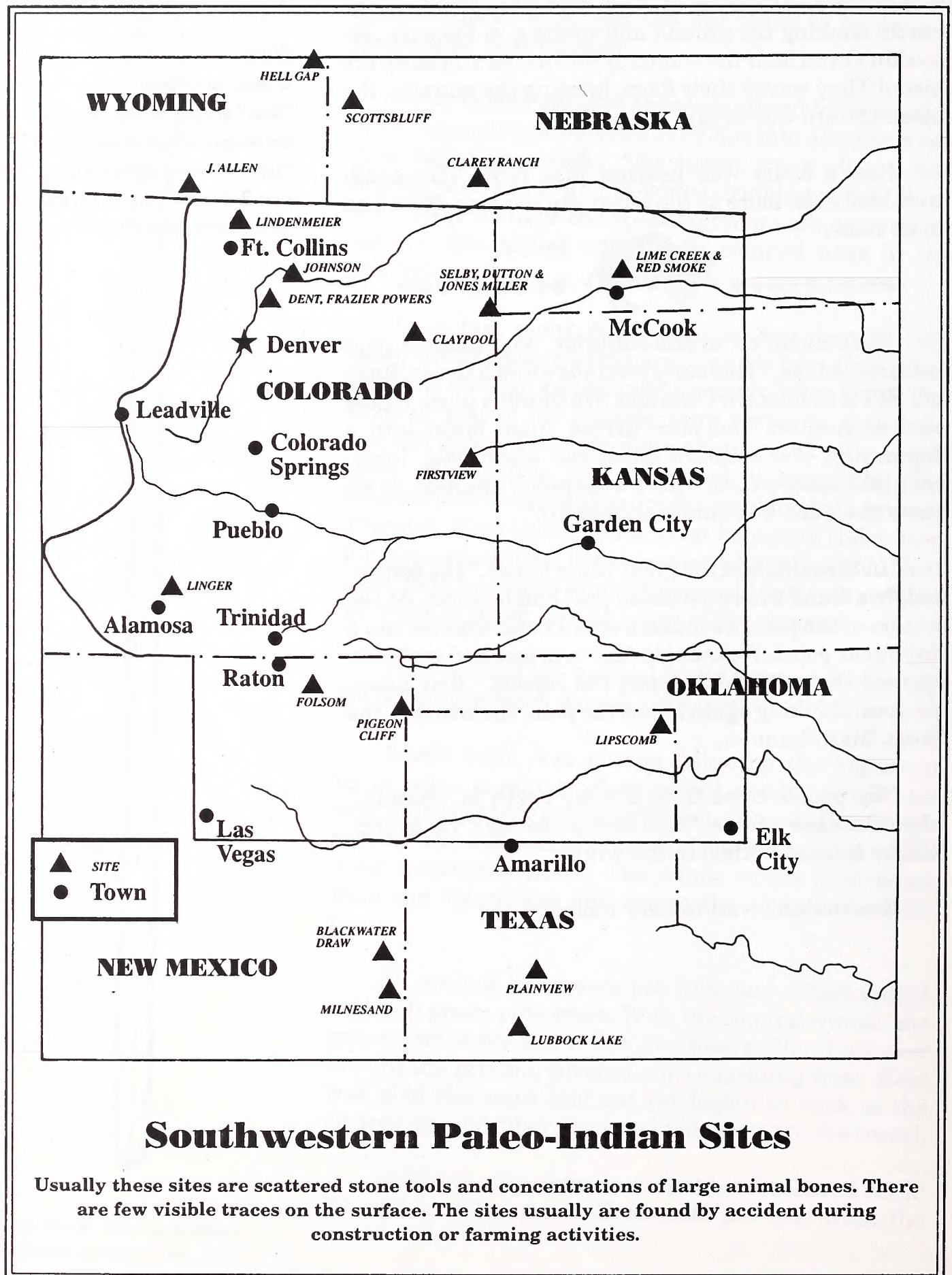
A place from the Past

SITE

A location or place.

"Sites" are places where people did things and left things behind.

There are many archaeological sites in Colorado where prehistoric people once lived.



Paleo-Indian Summary

Archaeologists have long assumed that all non-European people who came to the Americas were from Asia. They thought these people came through Alaska. Recent discoveries and new information may show that there were several different migrations. People might have come across both the Atlantic and Pacific oceans. The early migrations took place by 12,000 to 15,000 years ago. Some may have occurred before 20,000 years ago. We call these early people the Paleo-Indians. We know that Europeans arrived twice: 900 years ago and 500 years ago.

Food—Paleo-Indians mainly hunted large animals for food. They also ate small game and plants.

Territory—Paleo-Indians probably ranged widely with few limits. Possibly there were different groups in the mountains and on the plains.

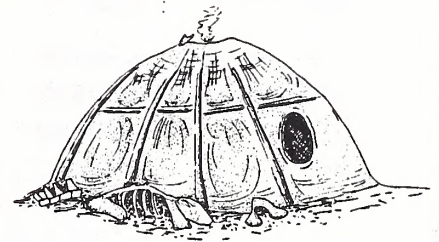
Shelter—Shelters were probably portable or made from whatever materials were available. Paleo-Indians made use of caves when they could.

Clothing—Unknown, but archaeologists have found fine bone needles. The needles indicate use of skins and leather. Objects such as elk teeth may have provided decoration.

Groups—Most of the time Paleo-Indians traveled in small family groups. They probably got together with other families to cooperate in large game hunting.

Tools—Paleo-Indians mostly used stone tools. Some were made from bone.

Other—Art was expressed in stone. Many archaeologists consider the stone points to be among the most beautiful ever made. Art may have been used as hunting magic.



Hide shelters provided a warm, dry tent. When it became time to move, the people took the hides with them and left the stick frame behind.

Word List Chapter 1

archaeologist—a person who practices archaeology.

archaeology—the scientific study of past human culture as it is shown by the tools, pottery, and other relics of past societies.

ceremony—a formal act or set of acts done in honor of an event or special occasion.

flake—a small thin, flat piece of stone or other hard material.

Paleo-Indian—the name given to the oldest known cultural group in North America.

point—an object having a sharp or tapered end, such as a stone projectile point.

pow-wow—a council or meeting with or of Native Americans; a ceremony conducted by a shaman, as in the performance of healing or hunting rituals; a modern celebration of Indian traditions.

quarry—an open pit where stone is obtained by digging, cutting, or, in modern times, blasting. Verb: to dig for rocks.

shaman—a member of some tribal societies who uses magic to heal the sick, to learn hidden things, and to influence natural events.

site—a location, place. "Site" is a word used by archaeologists for places that prehistoric and historic people lived in or used. Sites are places where humans left things behind.



The Archaic Period

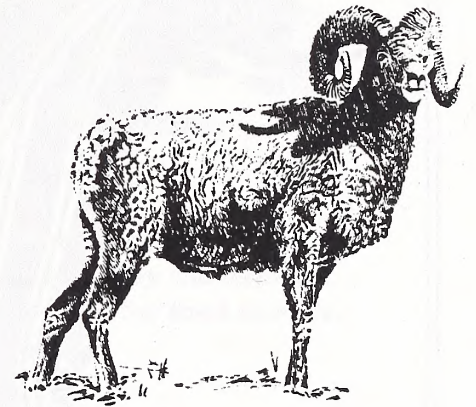
by **Bruce A. Bradley**

RON'S MOM CONTINUED, "Archaeologists have said for a long time that people came to North America from Asia across a BRIDGE OF LAND. It formed during the **Ice Age** about 12,000 years ago. The sea level was a lot lower then because enormous glaciers were holding the water. There were areas like the land bridge that weren't covered with ice. That's where people lived. Many of us still think this is true, but there are new ideas that suggest that at least some of the people migrated from Europe."

After a short pause, another elder continued the story:

"As the people became more numerous, they spread across the land and found homes in many places. The world began to change and the summers became warmer and the snows became less in the winter. The Creator took away the large animals, but left the deer, MOUNTAIN SHEEP, and rabbits. The people relied more on the many good plants for food and medicine. New languages were created and tribes began to separate. Thus began the great migrations as people searched for harmony and their center-place."

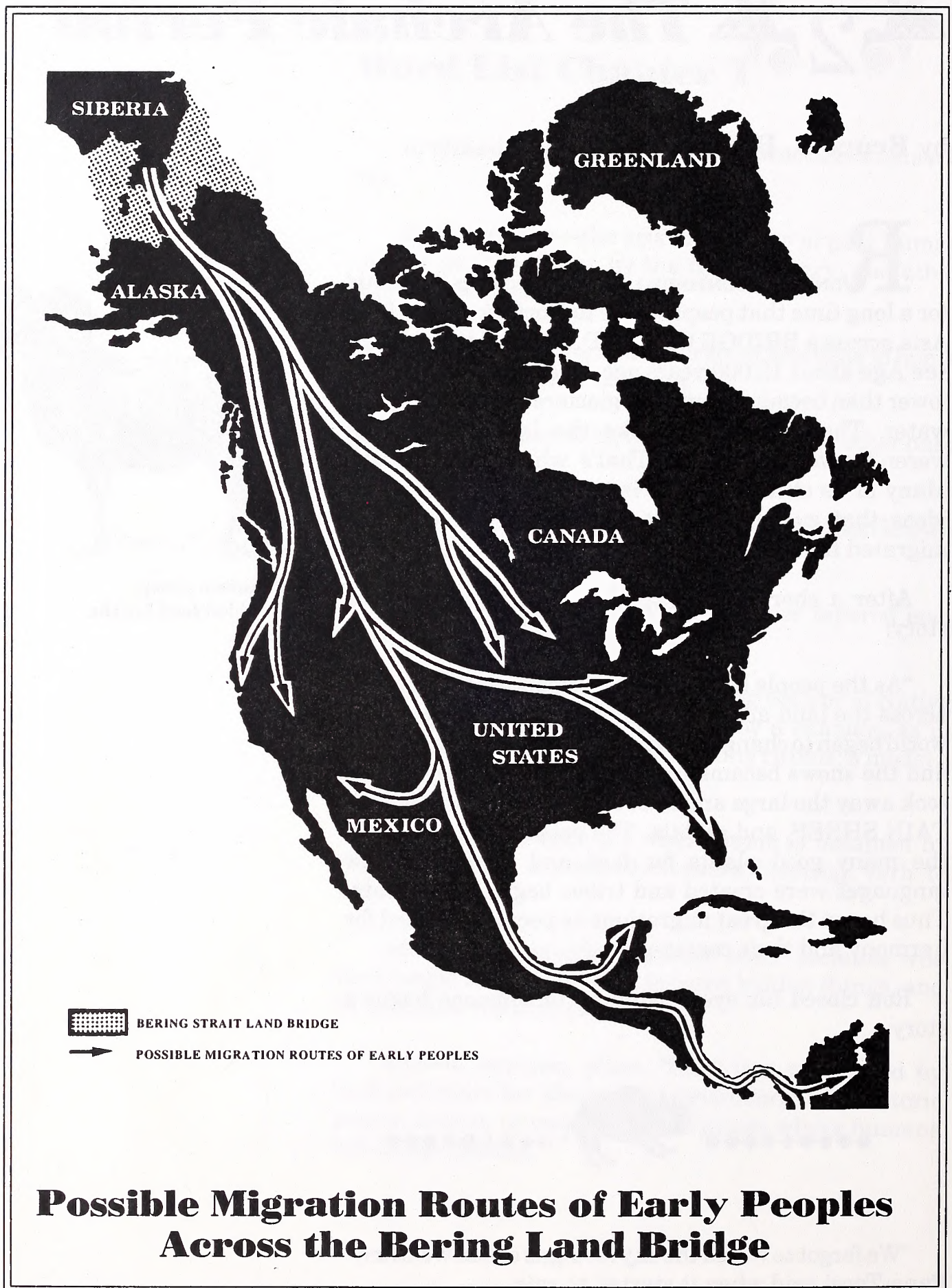
Ron closed his eyes, listening to someone begin a story.



**Mountain sheep
provided food for the
people.**



"We forgot to watch the sky for signs of bad weather,"
Pana-Toosi said when it started to rain.



By then, we had several baskets of ripe berries and a small RABBIT. My sister, Pana-Toosi, killed the rabbit with a stone. Our first thought was to run home to our camp, but we knew we should find a safe, dry place. There were some small caves near us, so we took shelter in one. It was good that we did, because soon the rain turned to snow. It snowed and snowed and snowed for two days and nights.

Now it was the third day since my sister, Pana-Toosi, and I were trapped in this small cave. Outside, new thick snowdrifts made traveling difficult.

“How did this happen?” Pana-Toosi worried, as we looked out at the new white snowdrifts.

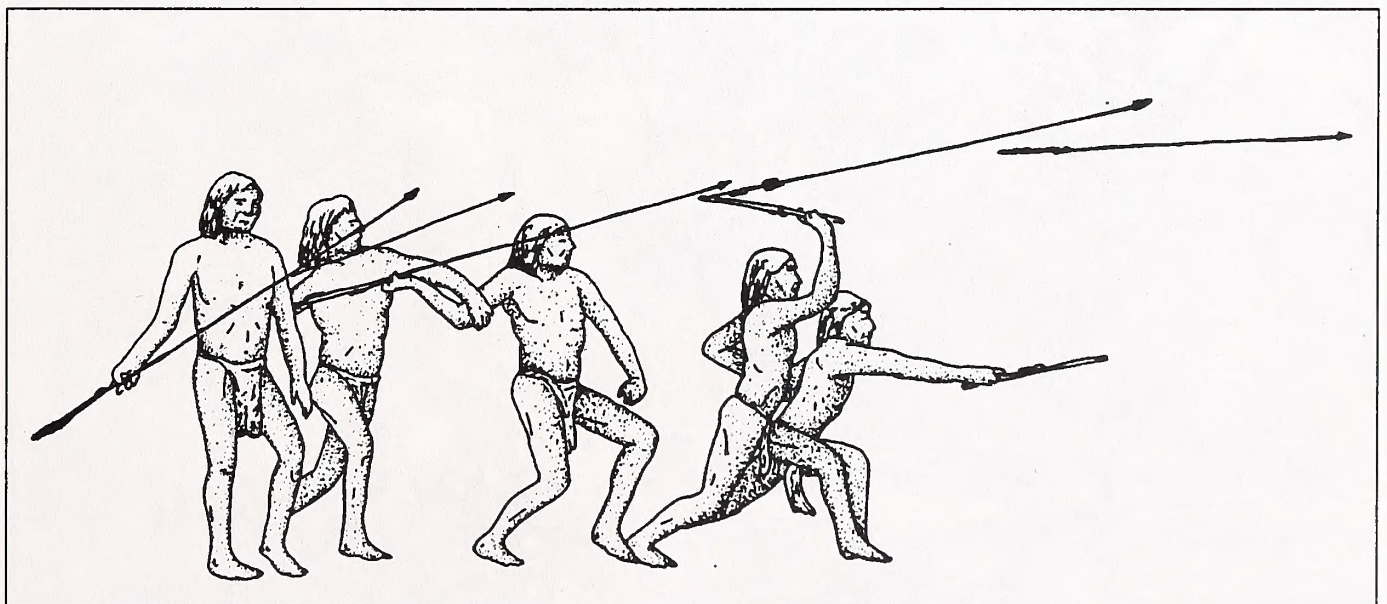
“Shhh,” I soothed her, “try to sleep some while I think about this.”

Pana-Toosi curled up where it was warm and dry inside the cave, next to the small fire I kept burning. While she slept, I considered our situation.

Our family was spending the summer in a small camp. Located next to a river, the camp was near the bottom of a canyon. One day, Mother had decided it was the season to collect the delicious red CHERRIES that grew in the mountains.



The jackrabbit was hunted by the Archaic people for food and its hide.

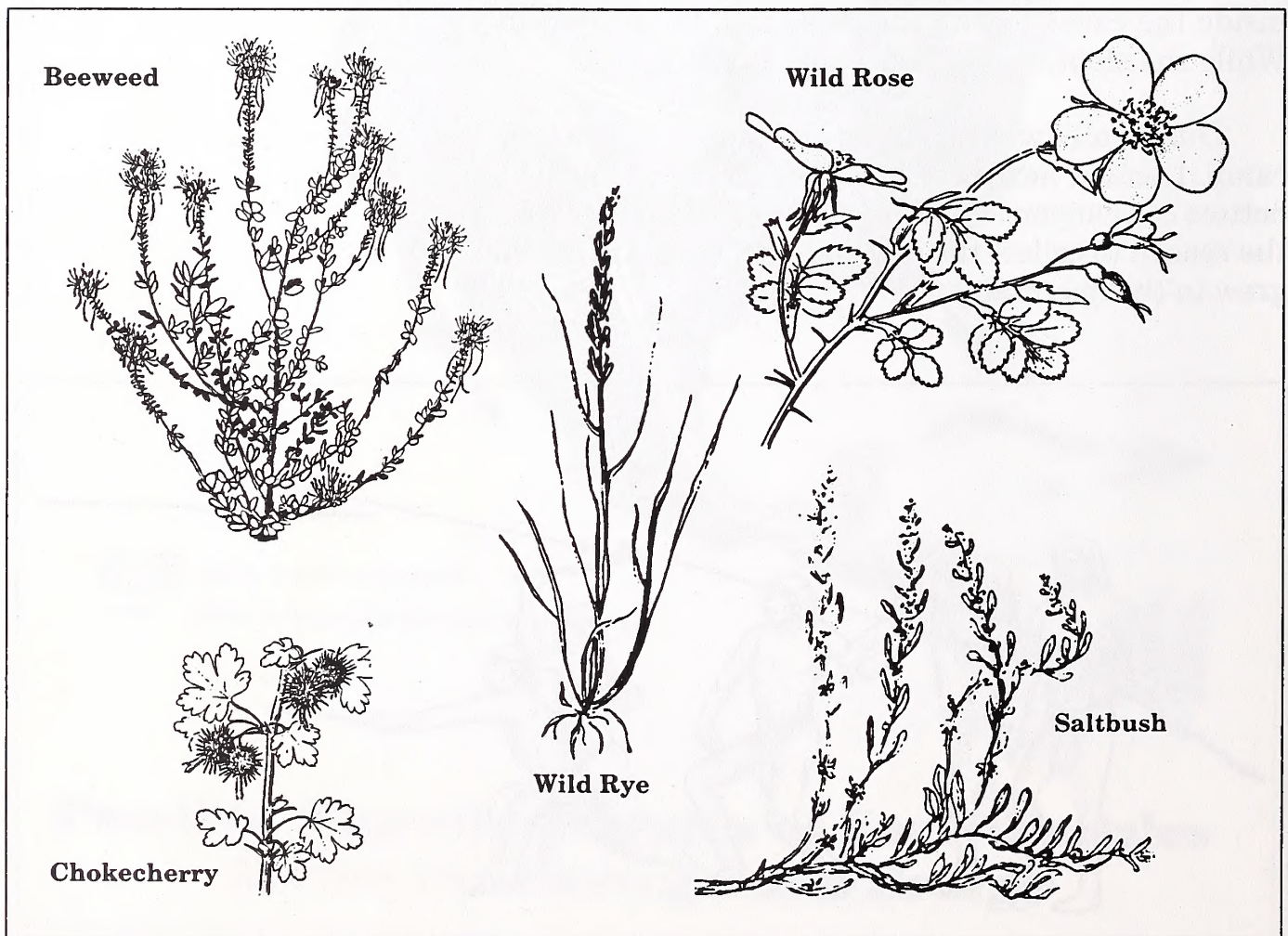


Throwing a spear with an atlatl made the spear go farther with more force.

Nodding, Father had agreed, “the mountains are also a good place to look for tool stones. We will go to the desert where it is warmer for the winter. The best stones for tools are in the mountains.”

After deciding that, Pana-Toosi, Mother, Father, my older brother Chekwa, and I traveled into the mountains for two days. Little Sister and Grandmother stayed behind at the summer camp. We found lots of plump red cherries and piñon nuts. Chekwa set out small traps or snares every day to catch small animals. He often caught a rabbit or some small birds for our supper in the noose of his snare.

There were signs of deer and bear on our mountain journey. So far, we hadn’t seen any to hunt with a SPEAR. When we found BEAR tracks, my Father stopped and prayed to the bear to guide us and protect



Native wild plants of Colorado were used for foods by many people.

us. He also left small wooden animals he made from willow twigs as offerings to thank the animal spirits.

On the third day, my sister and I became separated from the others when we were searching for small bitter blue berries. We were also looking for some of the plants to make the prickly ROSE tea my Mother and Grandmother like. We didn't plan to go far, but there always seemed to be good places ahead of us. Before we knew it, we were a long distance from camp. Then it started to get dark and rain. Luckily, we found this cave, where we could get out of the rain.

Pana-Toosi looked very peaceful in her sleep. I put some more of the dry cottonwood sticks onto the fire.

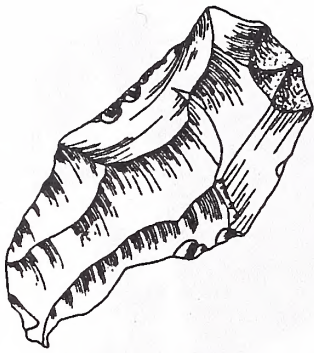
I am called Tara-Tana, but this is not my *spirit name*. "Tara-tana" means "Lucky Stone," but I don't know why I am called this. I don't feel lucky today.



Black bear. The family saw bear tracks in the mountains.



Archaic "Barrier Canyon" style rock art from the Dolores River area of southwestern Colorado.



Stone flake. Pana-Toosi used a stone flake to cut a hole in the wood.

When we had needed the fire, we worried because we had never made one by ourselves. We knew what to do from watching our older adults called **elders**.

In the back of the cave, I found a small pack rat's nest. Pana-Toosi and I removed a long straight stick and a flat piece of cottonwood from the nest. Taking the flat wood, Pana-Toosi used a **STONE FLAKE** broken from a larger stone. With the flake she cut a small hole or dent into the piece. She then cut a notch in the long stick.

Next, I found pieces of dry cedar and cottonwood bark to use for kindling. Pana-Toosi made a small bundle from the bark, like a bird's nest. After several tries, we made a fire by twirling the stick against the board. It was exciting to have made a fire without the adults supervising. They would surely be proud!

I knew the snow would cover any tracks we had made. Our family could not follow them to find us. Still undecided about what to do, I curled up next to Pana-Toosi and went to sleep. Night was falling fast.

When we woke in the morning, the sun was out and the snow was melting. We were anxious to start looking for our family. We had not been hungry and the fire had kept us warm, but we still worried about our family.

"We should be patient and wait one more night," Pana-Toosi said. I agreed, for the melting snow would make it muddy and slick getting down the mountain.

There was a large **YUCCA** plant near the entrance to our cave. Making small baskets and sleeping mats helped the long hours to pass. We both always carry small leather bags containing some stone flakes and a pointed piece of bone called an **AWL**. We used these tools to make the baskets and sleeping mats.

It was now our fifth day in the cave. I woke up early this morning and was anxious to set out with Pana-Toosi. The sky was clear again, and I knew the day would be warm. Most of the snow was gone now.

"It should be easy to find our way back to where we left our family," I reassured Pana-Toosi. I didn't voice



A large Yucca plant grew near the cave's entrance.



Archaic period grooved rock art in the Uncomphagre style from west central Colorado. Are these marks decorative or evidence of tool making?

my fears, knowing she already shared them. *But will they still be there?* We headed out from the cave, leaving the sleeping mats and small baskets behind.

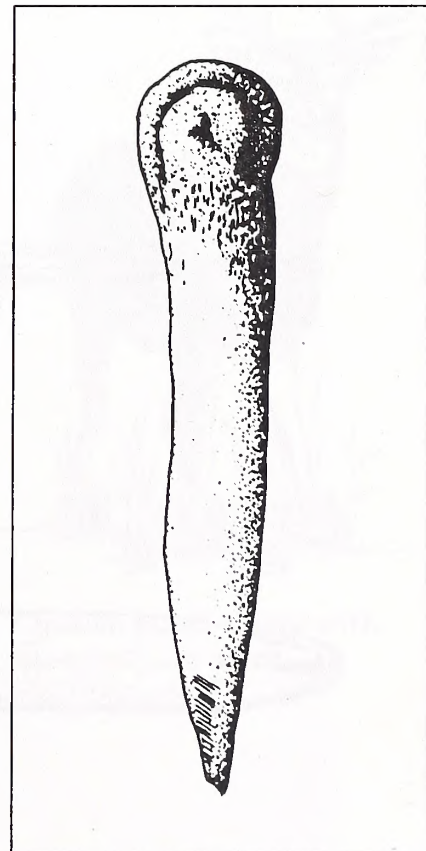
That sunny morning, we followed the base of the cliff and saw several more caves where we could have sheltered. I knew I would remember this in case we had to come back to this area.

The first small creek we came to was running from the melting snow. When I jumped across it, I saw a piece of light green stone.

“Pana-Toosi, look! That stone might be good for tools!” I gestured excitedly. I reached into the cold, rushing water and grabbed the green stone.

Although we wanted to find our family, Pana-Toosi and I spent a short time looking around. We noticed there were many pieces of good stone here.

I found a small pebble that was rough outside. I used the pebble to strike flakes from the green stones. The green stone flaked really well, with some of the best flakes I had ever seen anywhere! They were even good enough to make the knives and spear tips or points that



Bone awl used to make baskets and mats.

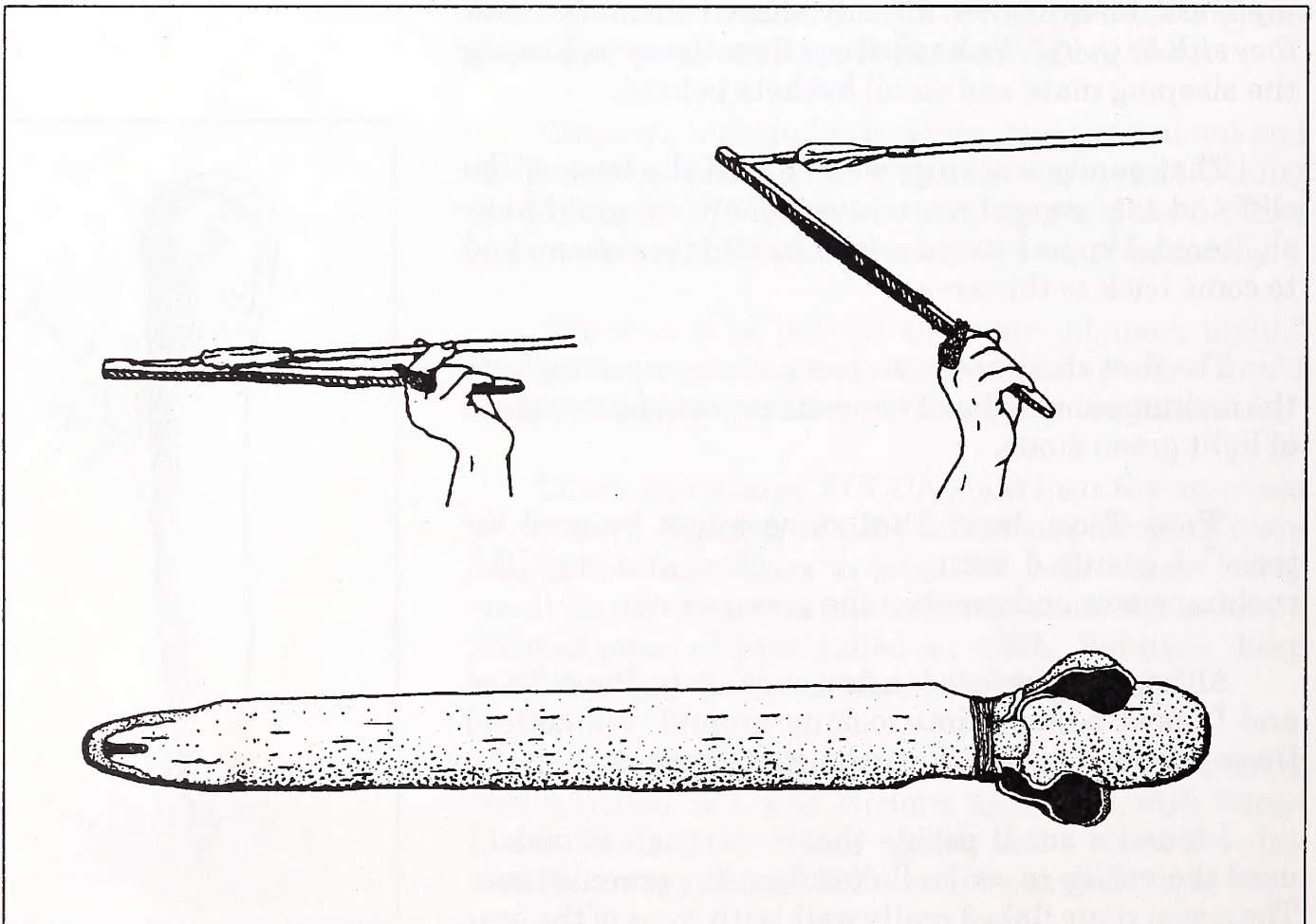
only a few people made well. I kept some of the flakes to show our family, tucking them into my leather pouch.

When we rounded a small hill, it looked familiar. I thought it must be the same small hill that we had crossed several days before. Suddenly, I stopped.

“Pana-Toosi, listen!” I said.

We heard Mother calling. “Mother, we are coming,” we called back excitedly! Then, it was only a short time before we found each other. Although we were separated for only a few days, it was good to be back with our family. Pana-Toosi and I were very proud, because now we knew that we could take care of ourselves when we needed to.

Mother told us that Father and Chekwa were looking for us, higher up in the mountains. She had stayed



An atlatl similar to one Chewa used to throw his spear.

behind, just in case we returned. During the snows, they had also taken shelter in a cave. It was one they knew about from previous trips.

"I told your Father that you knew what to do and would be fine," Mother smiled, adding that they had still worried about us.

That night, Father and Chekwa returned. They were happy to find we were all safe. They hugged us so hard, Pana-Toosi and I thought our ribs would break!

Chekwa even had a big surprise for us! While he was searching for us, Chekwa killed a DEER with his spear and spear thrower, or **ATLATL**.

When I looked at the deer and Chekwa's proud face, I remembered my uncle once telling me, "Your brother is one of the best hunters." Now he had proved it!

Father and Chekwa had prepared the deer as best they could. We went to finish taking care of it. The meat and hide were welcome. We could also use the antlers for tools and weapons.

Later, the deer meat, or *venison*, slowly cooked over our campfire. I showed the green flakes to Father and told him that there were many good pieces. He examined the flakes carefully.

"This is excellent stone for making tools," he announced. "After we finish taking care of the deer, we will go back and get some more of the green stone."

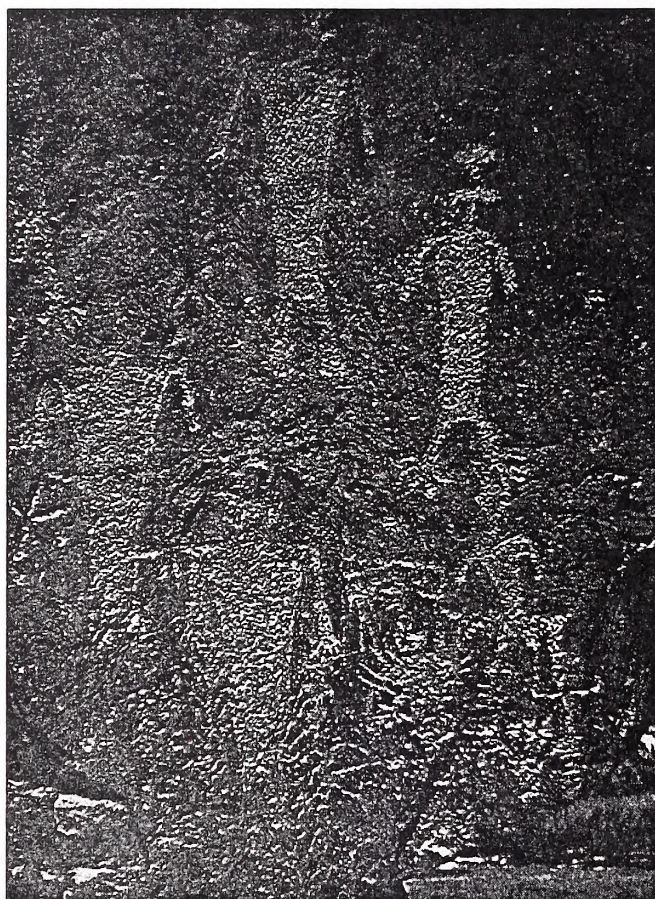
Father also said, "I am not surprised that you found it, Tara-Tana. You have a good eye for useful rocks. That's why we call you, 'Lucky Stone'."

So that was it! Now I knew why I had my name! Chekwa may be the hunter, but I was good with stone. I was learning a lot on this trip into the mountains!

It seemed forever before we could return to the stream of the green stones. First, it took a whole day to prepare the deer meat. Then, we waited while Father said a prayer before we started for the stream.



Chekwa killed a deer with his spear and atlatl.



Archaic period rock art in the San Juan Archaic-Basketmaker II style from southwestern Colorado.



Archaic period rock art in the Archaic-Basketmaker II style from southwestern Colorado.

When we arrived back at the stream, Chekwa and I searched for good pieces of stone. Pana-Toosi returned to our cave to get the small baskets we'd made. Father and Mother began making stone flakes to take with us. We prepared more pieces of green stone to use to make flakes later.

Usually, we only take what we need. This time, however, we took extra green stones to trade for meat and other useful things. We collected as much as we could carry, leaving the bad flakes and pieces behind at the stream.

With the deer meat, berries, tea, nuts, and stones, we all had heavy loads! It was a very successful trip! We thought it should get us through the coming winter.

I couldn't wait to get back to see Grandmother and Little Sister! Perhaps we were lucky, after all. We might not have found the good stone if we hadn't been caught in the storm. I'm sure we will go back again to the Place of the Good Green Stone. Above all, I learned that I can take care of myself when I need to.



When the story ended, Ron said, "My father is a well-known flintknapper because he makes fine stone tools. We have searched together for good flaking stone many times. It is just like when Tara-Tana and Pana-Toosi found the green stone! I think flintknapping is fun. Looking for and finding the right stone can be just as challenging today!" ❖

Archaic Summary

The word “**Archaic**” can refer to any group of hunters and gatherers who lived after about 7000 years ago. For later times, when hunter and gatherer groups had known tribal names, archaeologists use those names instead of the word “Archaic.”



Brush shelters were like temporary tents.



Mano



Basin metate



Mortar and pestle

All were used for grinding nuts, seeds, and berries.

Food—Archaic people ate mainly small game and plants. Occasionally they got large animals to supplement their diets. They practiced **seasonal rounds**, traveling to specific spots each season to gather the foods available at that spot at the best time.

Territory—The Archaic groups began to have distinct territories. They spent summers in the mountains and winters in valleys and on the plains

Shelter—BRUSH SHELTERS and caves provided shelter.

Clothing—The Archaic people used hides, leather, and woven fibers for clothing. They wore more in the winter than in the summer.

Groups—Probably several families lived together and occasionally joined into larger groups.

Tools—They used stone for spear points and other tools like grinding stones, called **MANOS** and **BASIN METATES**, and **MORTARS AND PESTLES**. They also made bone tools and baskets. They used atlatls and small spears for hunting.

Other—Archaeologists find willow twig animal figures that were possibly used for hunting magic.

Archaeological sites—Sites are often stone tool clusters, sometimes with evidence of campfires. Although they may be located almost anywhere, archaic sites are usually most apparent near springs and in natural rock shelters.

Word List Chapter 2

Archaic—ancient, old, or surviving from an earlier people. Archaic can also mean relating to an earlier time.

atlatl—a spear thrower that extended the range of a thrown spear. Using it caused the spear to go faster and farther than when it was thrown without an atlatl.

awl—a pointed tool for making small holes.

elder—an older adult.

Ice Age—the period in the world's history that began about 1.6 to 2 million years ago and lasted until about 10,000 years ago. It is also called the Pleistocene. During this period, much of the earth was covered with ice.

mano/metate—in the Southwest, mano comes from the Spanish word for “hand” and is a small grinding stone held in the hand. The mano is used to grind corn and grain on a larger stone, the metate, to make flour.

seasonal round—the pattern of moving from one camp to another following the natural cycle of ripening food.



Povi of the Ancient Pueblo People

by **Tito Naranjo**

with Introduction and Conclusion by **Bruce A. Bradley**

“**M**ANY STONES are sacred to our people,” added the Pueblo elder. “Especially the green stones and the shiny black stones. The shiny black stones you know as **obsidian** are volcanic glass. Our people began to settle down. They built villages after the Creator brought us corn and other crops. More people began to live together. At times, we came together in large communities.”

The elder’s wife continued, speaking softly.

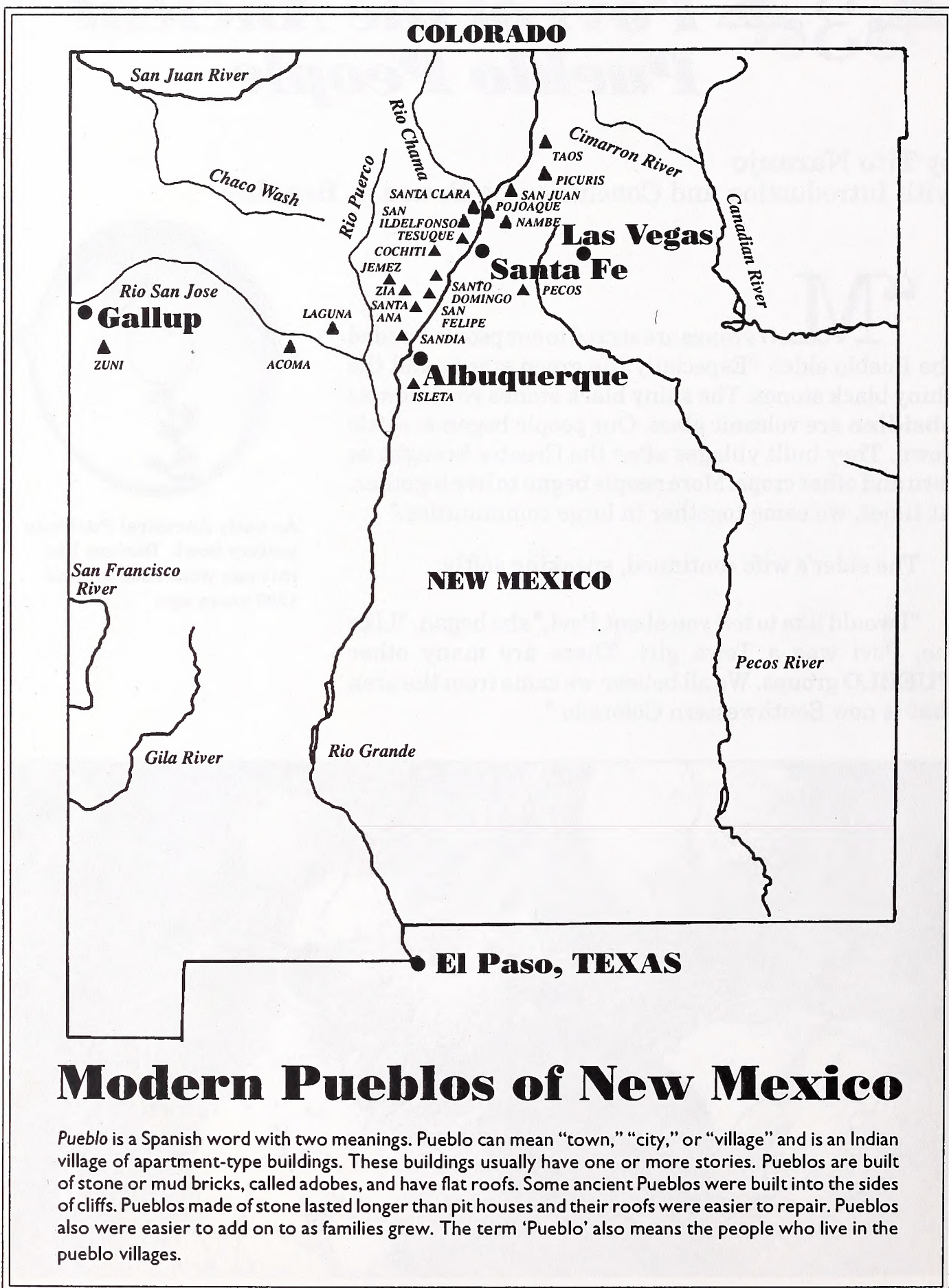
“I would like to tell you about Povi,” she began. “Like me, Povi was a Tewa girl. There are many other **PUEBLO** groups. We all believe we came from the area that is now Southwestern Colorado.”



An early Ancestral Puebloan pottery bowl. Designs like this one were used around 1200 years ago.



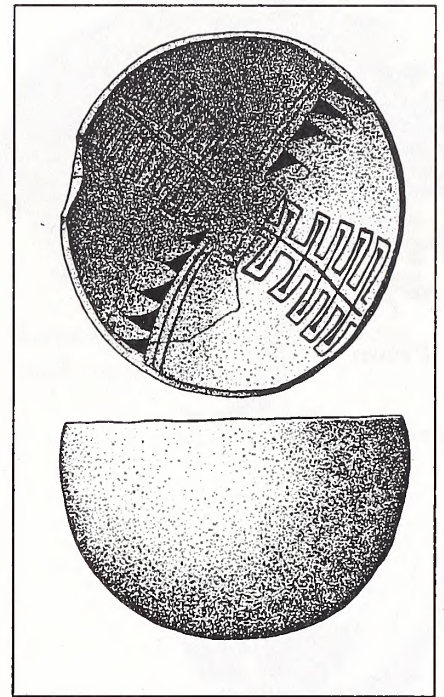
Pottery storage jars within an archaeological excavation site in southwestern Colorado.





Povi's full name was *Okúwapovi*, which means "Cloud Flower." Everyone called her "Povi." She was in her ninth summer of living at Húbege. *Húbege* meant "at the corner of junipers." Okúwapovi's name was the symbol for the clouds and was often drawn on **pottery** made of fire hardened clay. Sometimes men in the Pueblo drew this cloud symbol on **KIVA** walls.

Povi saw a grasshopper with black and white cross stripes, like a clown. Quickly, she set her black and white POTTERY BOWL down, next to the trail. She tried to catch the "clown grasshopper," but it jumped away twice before she caught it!



Povi used a bowl similar to this one.



Excavated kiva structure at Escalante Site in southwestern Colorado. Kivas were used for ceremonies and perhaps for shelter on cold winter days.



Piñon

Carefully, Povi carried the grasshopper in her hand. She picked up the bowl of venison and dried corn stew. It smelled delicious!

It was the time of corn planting. The men and older boys were clearing new ground of sagebrush and trees. They needed to make the cornfields larger. Povi's father, brothers, and uncles had been working all day in the fields up ahead. They would be hungry and would welcome the stew.

As Povi walked along the path, she nearly stepped on a horned toad! The horned toad moved just in time. Still, the sudden movement startled her so that she nearly lost her grip on the bowl of stew!

"Move on, special one," she told the horned toad. Povi's people believed that horned toads had a special power. Povi knew it was possible that lightning might hit her if she killed the horned toad. Relieved she had missed it in time, she watched the horned toad scuttle to a cluster of rocks where it would sun itself for hours.

Off in the distance, she could see the men of her family working. There were more JUNIPER and PIÑON trees on this end of the path than there were closer to her pueblo village.

Ahead, a cottontail RABBIT bolted out from under a large sagebrush and across the trail! She saw its white fluffy tail flash between the sagebrush! Povi thought of the good meat and the fur it could provide. She wished she had a rabbit stick with her to catch it!

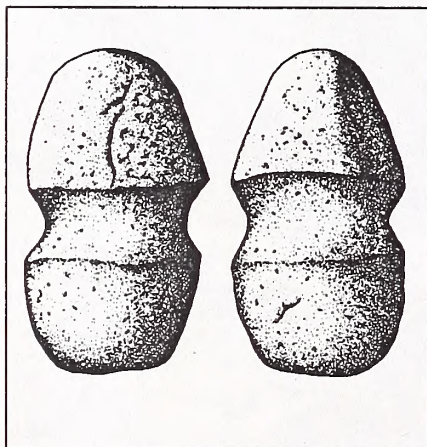
"Povi!" When Povi came out of the sagebrush and entered the cornfield, her uncle greeted her. He was the oldest of her mother's brothers.

"Ta Pa!" she returned the greeting. ***Ta Pa*** meant "Deer Father." Povi carried the bowl of stew to him. She could see the other men swinging their STONE AXES and working.

Ta Pa called to her father, brothers, and uncles to come for the stew. They put their axes on the ground and joined Povi and her uncle.



Juniper



Stone axe heads were attached to wooden handles.

"Wen!" Povi said respectfully, greeting her father by his name, **Wen** or "Pine Bird." His eyes twinkled when he saw who brought the stew.

Povi waited for her brother, **Kúwa e'** or "Little Bighorn Sheep." He was one year older than she was. When he arrived, she held out her hand.

"I caught a clown for you," she said, trying to hide her laughter. "Soon you will look like this!"

Kúwa e' was now part of the *Clown Society*. When he had been sick, the clowns cured him. After that, their father had given him to the Clown Society. Kúwa e' took the grasshopper, and smiled at his sister.

The eight men and boys gathered around and sat next to the two WATER JARS in the shade of a juniper tree. Povi sat next to Kúwa e'. They watched **Ta Pa** pour a little of the stew from the large bowl into his hand. He scattered a bit of the stew to the north, west, east, and south. **Ta Pa** said to the spirits, "Share this with us, so that we may have more."

He passed the stew bowl first to the older men. Each man used a gourd ladle to dip two mouthfuls of the stew. When their turn came, the young men and boys sat the stew bowl in the middle and moved to eat. Soon, the stew was all gone.

"Thank you, Daughter," **Ta Pa** said, handing the empty bowl to Povi. Instead of turning to leave, Povi stood waiting.

"What is it that you want?" **Ta Pa** asked.

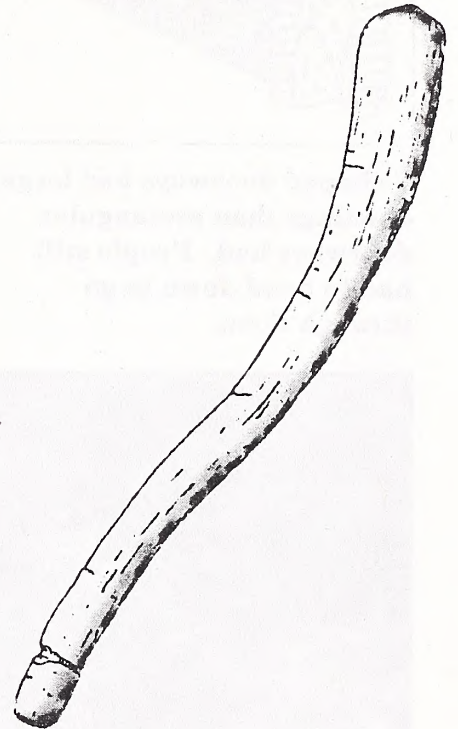
"Father, I need a RABBIT STICK," she replied. "I saw a rabbit on the trail."

Ta Pa smiled and walked to the nearest piñon tree. He broke off a thick branch with two ends that forked in a Y. He broke one side of the Y so that it left a handle over a foot long. Now Povi had a throwing stick in case she saw another rabbit.

Povi walked back to the pueblo village. Húbege,



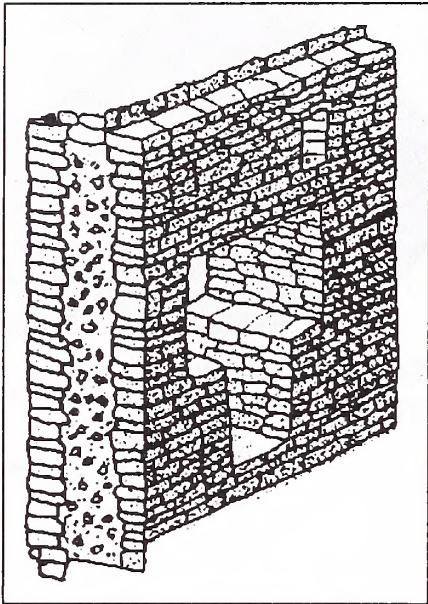
Canteens were used to carry and store water.



Rabbit sticks are believed to have been used for hunting rabbits.



Rabbits were hunted by Povi.



T-shaped doorways had larger openings than rectangular doorways had. People still had to bend down to go through them.

where Povi lived, was a farming village just north of *T'o Owingeh*, or Piñon Tree Village. She lived in a cluster of rooms on Húbege's south side. She lived in the three rooms with her mother and father.

Most rooms in Húbege had fireplaces for cooking in the corner. The room where Povi's mother, *Thantuun*, or "Sun Basket," cooked was different. Thantuun had asked Wen to put a square fireplace in the middle of the room. They also had a special doorway that was short and T-shaped. They were allowed to have this special doorway because Povi's father was in the *Medicine Society*.

Thantuun had covered the upper wide part of their T-SHAPED DOORWAY with a tanned elk hide. The narrow and lower part of the T let the air through. She adjusted the elk hide so there was just enough air



Archaeologists excavate a site in southwestern Colorado.

coming in the room to make smoke go straight up and out of the smoke hole above. Thantuun also put an old broken-bottomed pot on the roof above the smoke hole. The broken pot helped to pull the smoke up from their small fires. This kept the room from smoking up.

Povi's mother belonged to the Corn Clan, but her father's people were Badger Clan. Although Povi's father was a Badger, he lived with his wife and children. He was also the most important male relative for his sister's children, since he was their mother's brother. When there were ceremonies and other important events, he went to T'o Owingeh where the Badger Clan lived. At T'o Owingeh, the Badgers planted fields to the east of the big pueblo.

On the way home, Povi looked for the cottontail rabbit, but he didn't appear. She never used her new rabbit stick.

"Povi, did your father, brothers, and uncles eat?" her mother asked, as she and Povi's older sisters watched Povi walk into the room with her stick and the empty stew pot.

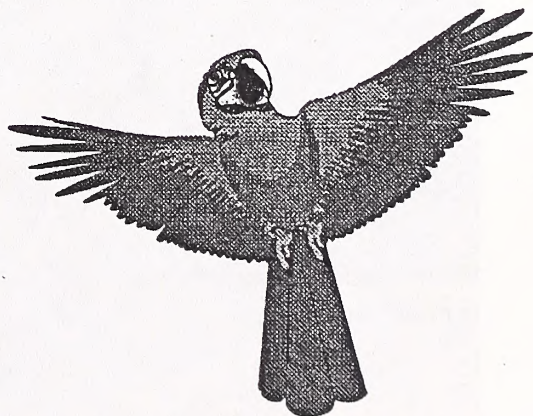
"Yes, Thantuun," Povi replied, for her mother's name was Thantuun. "See? They finished the whole pot."

"You took longer than usual, **Tampi**," Thantuun said.

"I see you hunted rabbits along the way?" her mother asked, calling Povi *Tampi* as she often did, which meant "tomboy." Povi was a pretty girl with black hair and long legs that could run fast. She was healthy and active, but was always trying to do things her brothers and the boys did.

"I saw one rabbit on the trail, before T_a Pa made me the rabbit stick," Povi shrugged.

"My sister said some traders have come to Húbege from T'o Owingeh!" Thantuun said, changing the subject. "They arrived at T'o Owingeh after walking for two days from the south. The Traders speak another language, but she said one of them spoke *Tema*, too." Povi's



Macaws are large parrots that are not native to this region. A macaw feather cape was found in southeastern Utah.



Ancestral Puebloan style rock art from Petroglyph Point in Mesa Verde National Park in southwestern Colorado.



Shell necklace made from traded shells.

people not only spoke the Tewa language, but Tewa was also what the people called themselves at Húbege.

“What did the trader’s bring?” Povi wondered, hoping for special or exciting things to see and trade! Traders were the Tewa’s link to other parts of the world.

“My sister says they have many wonderful things!” Povi’s mother replied. “They brought red pottery, tobacco, salt, MACAW FEATHERS, SHELLS, and *KAAN* hides.”

Povi smiled, picturing the parrot feathers that came from very far away, to the south. “I hope Wen will trade for some shells to make jewelry,” she thought. “I wonder what *kaan* is?”

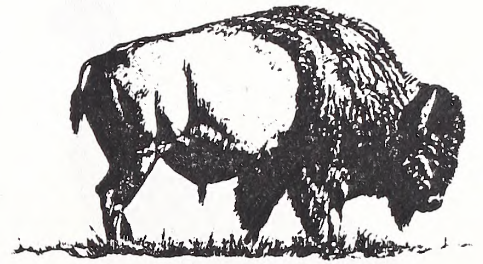
“Tonight, Okúwapovi, our men will trade when they

came in from the fields,” Thantuun said.

Povi knew that these traders were friendly and lived in a village like Povi’s people did. Their language, however, was different. Sometimes her father and the other men stayed at the village in their GREAT KIVAS. The great kivas were huge, round rooms used mostly for ceremonies. The men stayed for about half a moon, and they learned more about curing and healing people. The men would return to Húbege with new songs and dances.

“Are the two women who married men from our village, from the trader’s pueblo?” Povi asked her mother.

“Yes, Povi, they are,” Thantuun replied. “Remember, these women taught us women and girls many things! From them, we learned how to make new designs on our pottery, and how to use plants to cure sickness.”



Kaan or buffalo roamed the plains.

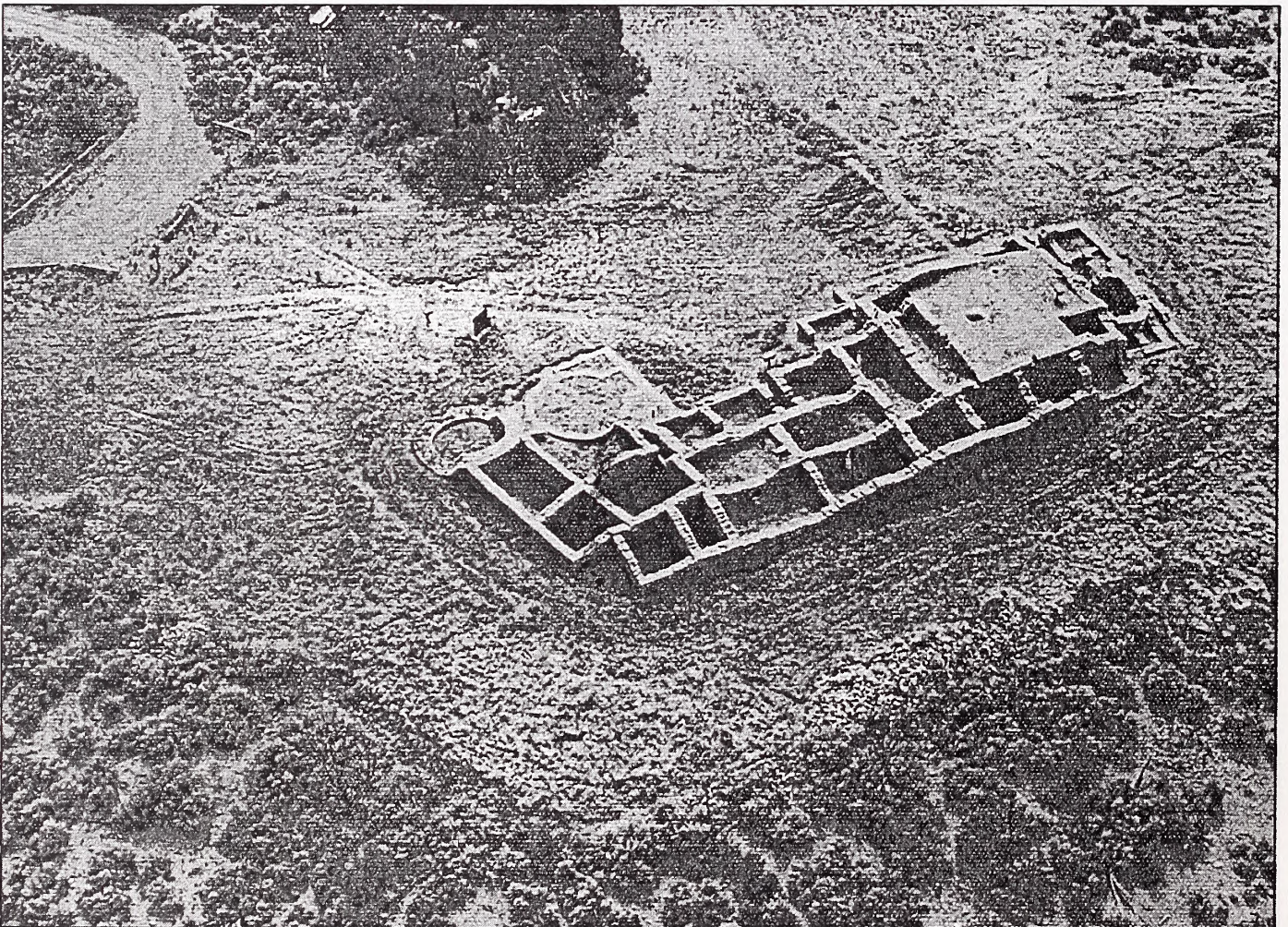


Great Kiva at Chetro Ketl Site at Chaco Culture National Historical Park, New Mexico.

"I remember," Povi said. Like the other Húbege people, Povi liked these women. They had now become Tema.

"Thantuun, I have heard these women speak of some people far to the east," Povi recalled. "Those people live along a big river and speak the same language as the two women's home pueblo."

"Yes, Povi," her mother agreed. "When I was a child, sometimes the far away people would come and visit the Tewa for a whole year! The far away people told exciting stories of places where corn grew very big. They talked about big animals they called kaan that roamed in countless numbers near there. Come, there is much to do. Will you feed the TURKEYS please?" They kept turkeys in a pen at the side of the village.



Lowry Pueblo site is located in southwestern Colorado on Bureau of Land Management land.

As long as there was light, the women in the Pueblo worked. Povi kept busy. She brought wood to stack near their door for the morning fires. With her older sister, **Kwan e'**, or "Sprinkling Rains," Povi carried the wood using hide cords. Sometimes Povi and Kwan e' spent a whole day gathering wood.

Finally, when the sun was setting below the high mountains to the west, the men came in from the fields. The women had set a meal for them in the front room. This was where Thantuun cooked and spent most of her day, when she was not outside.

Summer evenings were very pleasant times in the pueblo. Children ran and played along the outside walls of Húbege. People visited, going from one house to the next.

Tonight it was even busier than usual. A town crier announced about the trading from the housetop. "Three men from T'o Owingeh have come to Húbege!" he cried out, loud enough for everyone to hear. "In two days time, there will be a dance in the west plaza of T'o Owingeh!"

"A dance?" Povi could barely contain her excitement. She looked forward to going to the big pueblo. "When will we go?" she asked Thantuun.

Her mother replied, "It is good for us to go when Father Sun is highest in the sky. The dance will give strength to Father Sun and our corn will grow tall!"

Povi didn't know how she was going to wait two days to go to T'o Owingeh. She knew her father had grown up there, but for Povi, Húbege was her home. She liked to visit the big pueblo, but always wanted to come home at the day's end.

Kúwa e came in with the other men. He held out his closed hand to her, his eyes sparkling. Eagerly, Povi opened her hand to see what he'd brought her. She felt a wiggle! There on her hand was a tiny lizard!

"Thank you, Kúwa e!" Povi exclaimed. "Maybe I will paint this lizard on my pottery tomorrow."



Turkeys were kept by the Ancient Pueblo people for feathers which were plucked and woven into blankets. They also provided meat when they died.

“Listen!” Kúwa e said, holding up a hand to silence her. They could hear excited voices outside, coming from the open space of the **plaza**. The traders were setting out their goods and people were gathering in the plaza.

“What are you waiting for?” Kúwa e asked. That’s when Povi realized everyone else had already left.

She followed Kúwa e outside. Happily, Povi sighed. All felt right with the world! It had been a good day in the Pueblo.



“There is a lot to learn about the old sites where we live near MESA VERDE,” said Katie, Ron’s sister.

“This is true,” the elder’s wife said. “Much later, I believe T_o Owingeh became LOWRY PUEBLO. Of course you archaeologists may not believe that!” she teased.

“That’s a good point,” Ron’s father agreed. “Even though we archaeologists have learned a great deal about the Ancient Pueblo people, there’s still more we don’t know. Now we find we can learn a great deal about Ancient Pueblos by listening to modern Puebloans.”

“Hey, Dad, why aren’t you using the term *Anasazi*?” Ron wondered. “I thought these pueblo people were all Anasazi!”

“Ron, Anasazi is a Navajo term meaning ‘ancient enemy,’” his father answered. “Many modern Puebloans prefer that we don’t use that term. Now we call them Ancient Pueblo People or Ancestral Puebloans.” ♦

Corn

Changing the Lives of People

by Kris Kunkel

Did you know that tomatoes, potatoes, and corn used around the world today came from the Americas? Native peoples first domesticated these plants. In fact, almost two-thirds of the food eaten all over the world today comes from American plants.

Neither crops nor farming began overnight. Hunter-gatherers first began encouraging wild plants. People from the central highlands of Mexico introduced corn (maize) to the Southwest. The original ancestor of corn is a wild grass called *TEOSINTE* or "God's corn." Wild teosinte cobs were very small, about thumbnail size. Another wild grass is *chapolite*. Chapolite is a small-cob popcorn plant. The corn found in the southwestern United States came from these two wild grasses. This new corn is called *Maize de Ocho* or *Harinoso de Ocho*.

Corn became the food of life throughout America. Native people domesticated hundreds of kinds of maize (corn). Over centuries, maize became part of the hunter-gatherer life-style. The cobs became larger and more uses were found for every part of the corn plant. Native Americans in the Southwest began to use and grow that type of corn around 300 B.C. They had been growing corn for 600 years before they began to use the *maize de ocho*.

Growing corn changed life for native peoples. As they became dependent on corn, they built pit houses and later, pueblos. They learned to store food in case the



Teosinte grass, the original ancestor of modern corn.

next year's crop failed. They made better containers for cooking—the ceramic bowls and pottery seen today in museums. Can you guess other ways that life changed for these people when corn became their most important food?

Corn was planted in widely spaced, small hills of dirt. This allowed the people to protect the corn plants from birds and other creatures. It also kept the corn from taking all the nutrients from the soil. The following year, the people would plant the corn between the hills of the previous year. When a farmer uses a field all the time, it uses up the nutrients in the soil. The plants do not grow as well. Changing the hills let the soil stay rich and fertile.

The people prepared corn by grinding. They put the corn on a large stone slab that had a trough pecked into it. The stone slab is called a *metate*. They took a round hand stone, called a *mano*, and crushed the corn between these two hard surfaces. This is how they made flour to use in their cooking.

Corn became the most important crop for people in the Southwest. It appears in prehistoric rock drawings and modern Native American art. Modern Pueblo people use corn pollen to bless things. They hold special corn dances yearly. Corn is still an important part of their lives.

Pueblo Summary

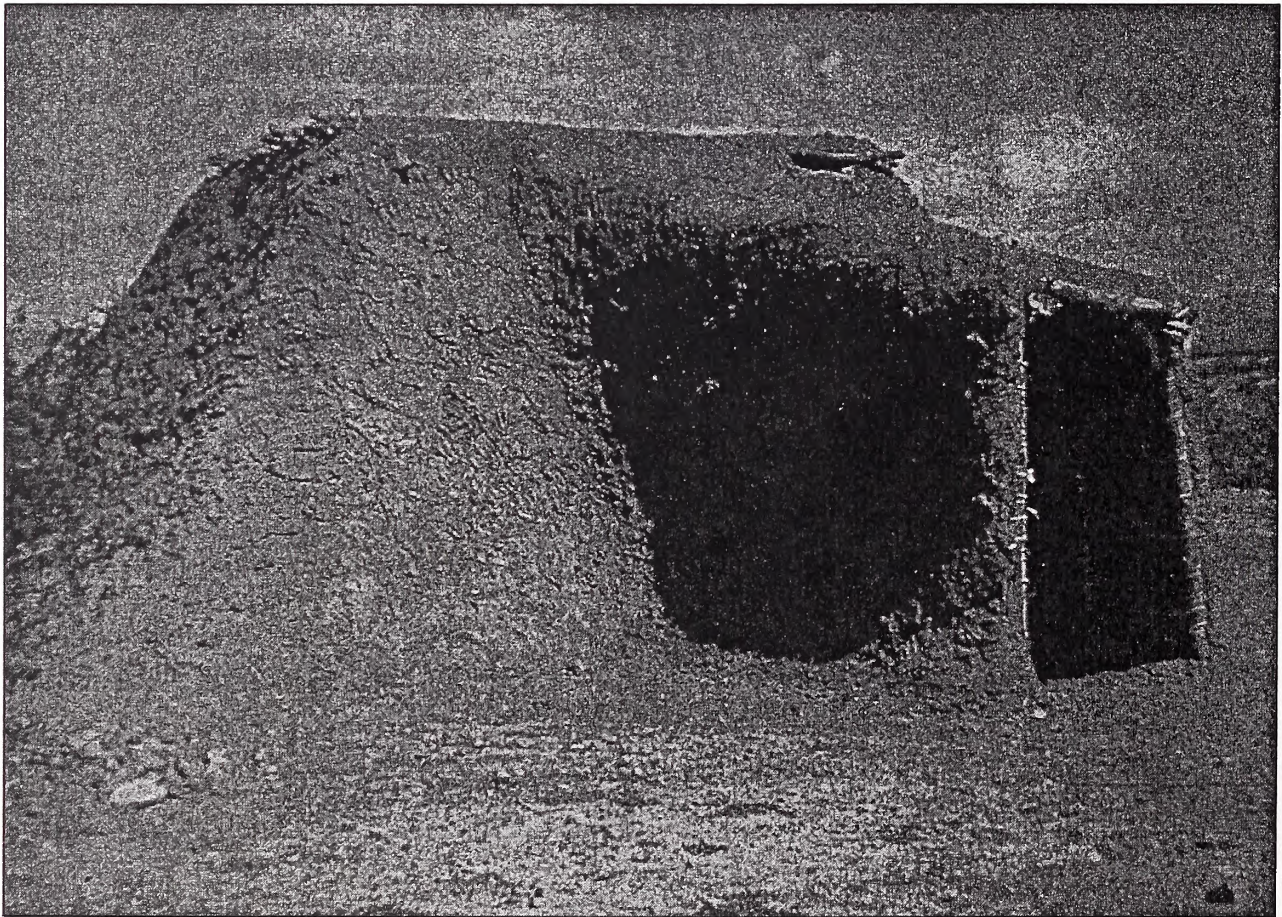


Squash and beans were part of the diet.

Food—The Ancestral Puebloans farmed CORN, BEANS, and SQUASH and collected wild plants. They hunted mostly small game, bighorn sheep and deer.

Territory—The Ancestral Puebloans lived in established communities.

Shelter—The earliest Ancestral Puebloans used permanent structures made of wood and mud, sometimes dug into the ground and called pit houses. As time went on they added more rooms and gradually switched to using stone to build strong walls. These buildings were sometimes several stories high. At both the beginning and end of their time in Colorado,



Early pit houses, similar to this one, stood mostly above ground. As time went on, the pit houses were dug deep into the ground so that only a small part of the roof was above ground. Why do you think this happened?

some people built shelters in caves.

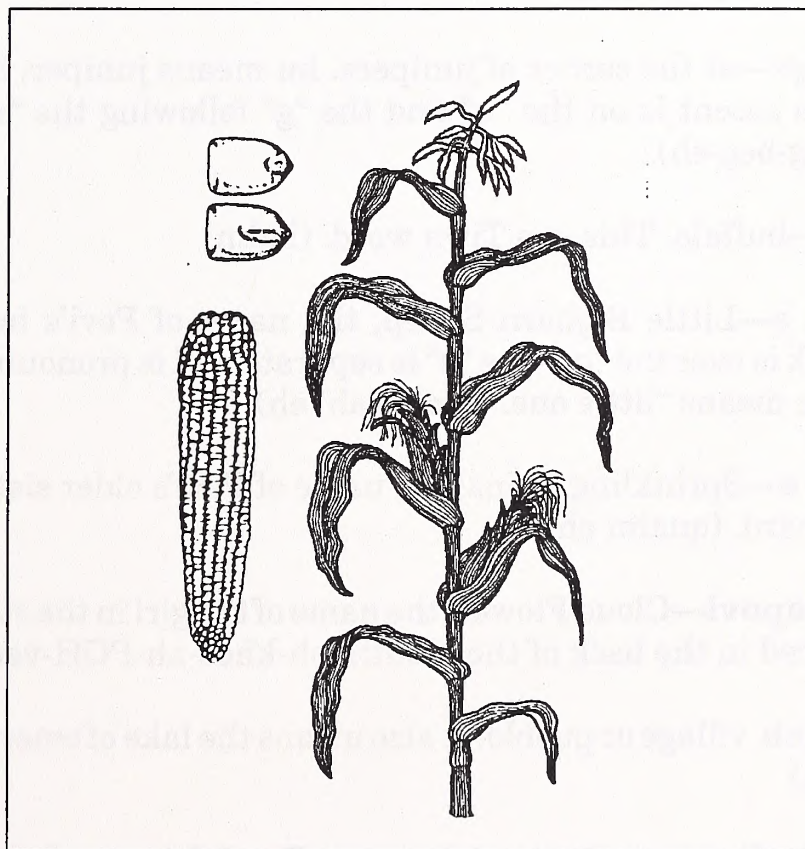
Clothing—The Ancestral Puebloans wore mostly woven garments like cotton cloth, turkey feather and rabbit hide blankets, and woven sandals. They also used jewelry.

Groups—The people lived in small homesteads or in large apartment clusters. Some lived in very large communities.

Tools—Tools were made of stone and bone. Grinding stones were important for processing food. They made baskets and pottery. The bow and arrow were used for hunting.

Other—Besides shelters to live in, they had community and ceremonial buildings. Rock drawings were common.

Archaeological sites— Sites vary from spectacular cliff dwellings to scatters of flakes and pottery sherds. Frequently, mounds of shaped stone mark the locations of collapsed structures.



Corn, also called maize, was an important part of the diet.

Tanoan Words

Tanoan (tan-O-uhn) is the native language spoken by Tito Naranjo, the author of this story. He is originally from Santa Clara Pueblo in New Mexico. People from Santa Clara speak a form of Tanoan, called Tewa (Taa-wah). Another form is Tiwa (Tee-wah), spoken by people from Taos Pueblo. All the words except *kaan* are Tewa words.

Tanoan is one of four languages spoken by modern Puebloans. Like Europeans, Puebloans have different languages, but similar cultures. Some of the languages are closely related; others are not. One language, Zuni, isn't like any other Puebloan language!

Tito Naranjo thinks that even though Puebloans speak different languages, at one time they all lived near each other in the Four Corners region. It would be similar to the Rio Grande region today. In the Rio Grande Valley of New Mexico, some Puebloans speak Keresan and other speak some form of Tanoan! Archaeologists can't tell whether or not Tito Naranjo is right because the Ancestral Puebloans didn't leave any written clues. What do you think?

Húbege—at the corner of junipers. hu means juniper, bege means corner. The accent is on the “u” and the “g” following the “n” is barely heard. (’ung-beg-eh).

kaan—buffalo. This is a Tiwa word. (kahn)

Kúwa e—Little Bighorn Sheep, the name of Povi's brother. The accent mark is over the “u.” The “e” is separate and is pronounced “a” like the letter; e means “little one.” (koo-wah eh)

Kwan e—Sprinkling Rains; the name of Povi's older sister. The “n” is barely heard. (quahn eh)

Okúwapovi—Cloud Flower, the name of the girl in the story. The kh is pronounced in the back of the mouth.(oh-khoo-ah-POH-vee)

owingeh village or pueblo. It also means the lake of emergence. (oh-WEEN-geh)

Tampi—Tomboy; Povi's nickname. The “t” is an abrupt popping sound, made with the tongue farther back in the mouth than is usual for a “t” sound. (t’hen-pee)

Ta Pa—Deer Father; the name of Povi's uncle. The "a" in *Ta* is pronounced like the "a" in *can*. The "a" in *Pa* is pronounced like the "a" in *father* not the "a" in "can." (ta pah)

Tema is a Tanoan reference to Keresano. The accent is on the *mah* sound. The *ay* is pronounced as in *way*. (tay-mah)

Thantuun—Sun Basket, the name of Povi's mother. The "h" and "g" are barely heard. (thung-tuun)

T'o Owingeh—Piñon Tree Village. T'o means pinon tree and owingeh means village. The apostrophe after the "T" indicates that the "T" pops with the tongue at the top of the palate. This produces the popping "T." (t'oh oh-WEEN-geh)

Wen—Pine Bird; the name of Povi's father. The "g" sound is barely heard and is pronounced from the back of the mouth. (wehng)

Word List Chapter 3

Anasazi—Navajo word meaning “ancient enemy.” It has been used by archaeologists to describe prehistoric Native American people inhabiting southern Colorado and Utah and northern New Mexico and Arizona. Their descendants are the present-day Pueblo peoples. Out of respect for their wishes, the word, *Anasazi*, is being replaced by other terms such as Ancestral Puebloan or Ancient Puebloan.

kiva—an underground or partly underground chamber in a Pueblo village, used for ceremonies or councils.

obsidian—a hard, black or dark-colored, glassy volcanic rock that forms when lava cools. It is easy to shape into stone tools by flaking and is extremely sharp. Today, some surgeons prefer obsidian tools to using metal tools.

plaza— a public square or similar open area.

pueblo—a Spanish word meaning “town,” “city,” or “village.” A pueblo is a village of apartment-style buildings usually made out of adobe (sunbaked bricks) or stone masonry. It is also used to refer to the people who live in the pueblo villages.

pottery—pots, vases, cups, bowls, and other dishes or objects made from clay and hardened by heat from a fire.



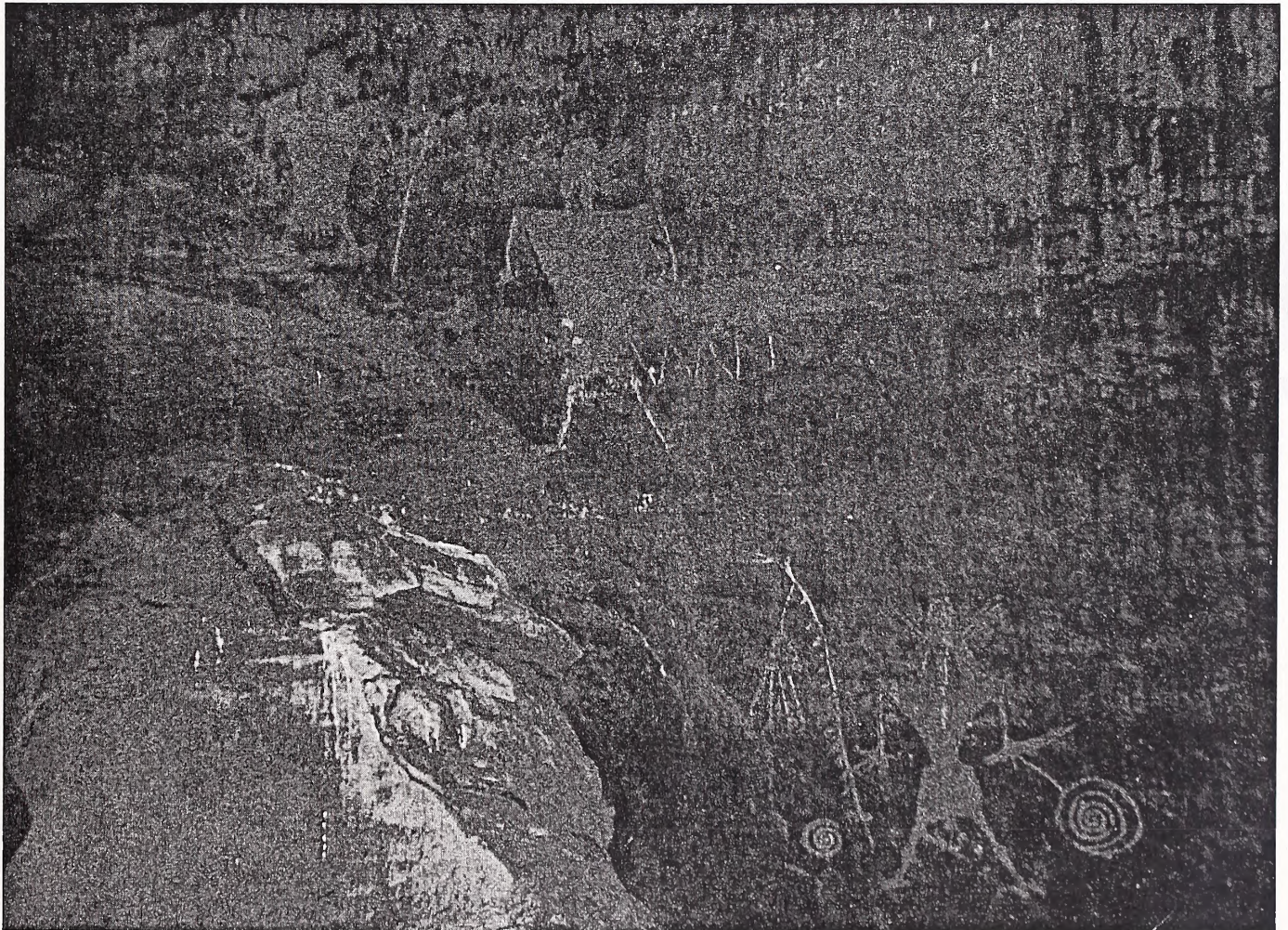
Little Hawk of the Fremont

by **Douglas W. Bowman**

with Introduction and Conclusion by **Bruce A. Bradley**

“**W**HEN THE ANCIENT Puebloans lived in what we now call the Colorado Plateau,” Ron’s father was explaining, “Other people, the **Fremont**, lived to the north. In many ways, the Fremont lived like both the Archaic hunters and gatherers and the settled Ancient Puebloan farmers.”

“Did Fremont people have pueblos?” Ron wondered, watching some kids toasting marshmallows over the



Fremont style rock art petroglyphs from west central Colorado.

burning fire.

"These people built stone or adobe homes, but they never gathered into large communities like the Ancient Pueblo people," Ron's mother replied. "Although the Fremont people farmed, they still hunted and gathered plants for much of their food. Today, we best remember them for their fantastic paintings and pictures. They made these on the walls and cliffs of the deep canyons, north of the Ancient Pueblo settlements."

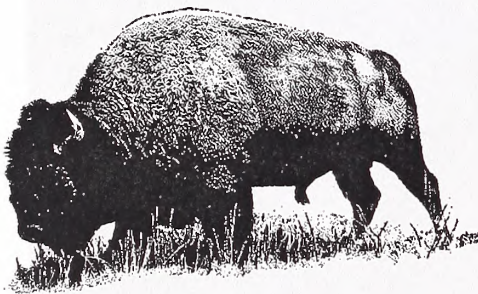
"Rock art!" Ron exclaimed.

"Yes, I can imagine what it must have been like to see those paintings for the first time! They made two kinds of rock art or **ROCK DRAWINGS**. One, where the artist pecks the picture into the rock, is a **PETROGLYPH**," Ron's mother said. "Or if they paint the picture on the rock, it is a **PICTOGRAPH**."

"Let me tell you a story about Little Hawk of the Fremont," a man announced. "My name is John, and my grandfather used to tell me this story. Little Hawk lived around the same time as Povi of the Ancient Puebloans ..."



Elk. Little Hawk wanted to help hunt elk.



Buffalo provided meat and hides for early people.



"Tomorrow is not coming fast enough!" Little Hawk thought, lying on his grass mat. He stared at the last red glowing coals from his home fire. Although it was very late, he was too excited to sleep. Shivering a little, both from excitement and the chilly night air, he crawled deeper into his rabbit fur blanket. For the hundredth time, he thought about tomorrow.

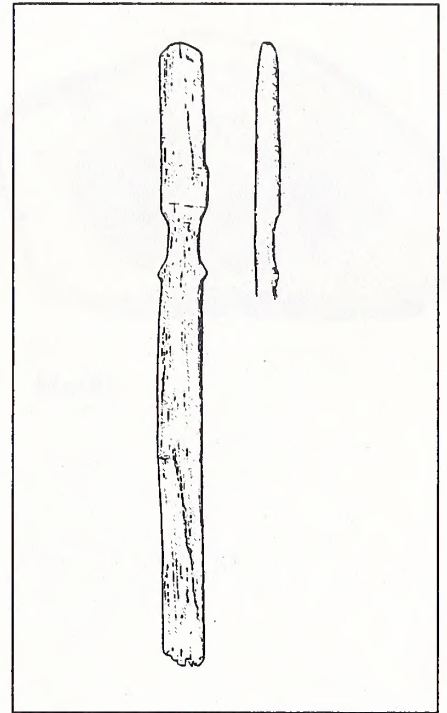
Little Hawk had been waiting nine summers for this day! Finally, he was old enough to go! Tomorrow was *Walk-Away Day*! Every summer, Little Hawk had watched the older children, hunters, and strongest women leave on the Walk Away. They didn't return for one whole life of the moon. That was even more days

than he could show on both hands two times! Every summer, Little Hawk had remained behind with the others who were too young, too old, or too weak to go!

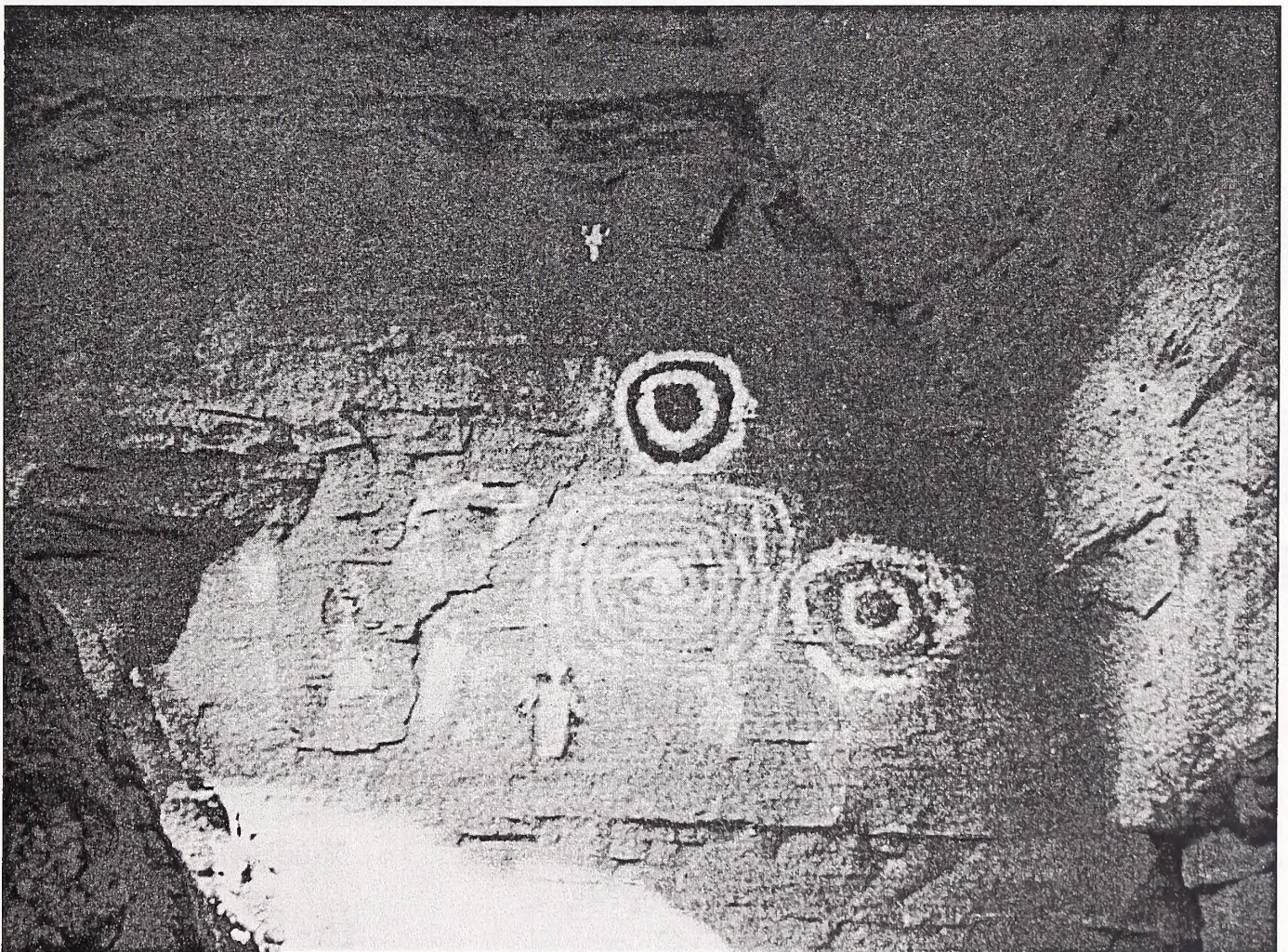
No more! This was his year! This year he would make the special trip to hunt deer, ELK, and BUFFALO. He would help to gather all kinds of berries, seeds, nuts, roots, and plants. He might even meet and trade with people in other villages!

It was impossible to sleep! Tossing, Little Hawk peeked out from his blanket. He glanced at the familiar wall of his mud and stick house. There they were! Hanging on the wall and, like him, just waiting for the trip! He gazed with pride at his new shield, and the ATLATL with which to throw his new spears. Uncle Great Bear had given them to him yesterday.

"I *must* sleep!" Little Hawk whispered to himself. It



Parts of excavated Fremont atlatls like Little Hawk's.



Early Fremont style pictograph rock drawing from the Canyon Pintado area.

was hard, but he pulled the blanket up so that he couldn't see the wall. He swallowed, trying to stop the nervous feeling in his stomach. Little Hawk reminded himself he was going to need to sleep and become strong for the journey. He didn't want to get too tired and cause everyone to feel he was still too young to go!

The excitement was almost more than he could stand. Finally, when the last red embers of the coals winked out, Little Hawk closed his eyes and slept.

When the first dog barked outside in the morning, Little Hawk sat straight up in bed.

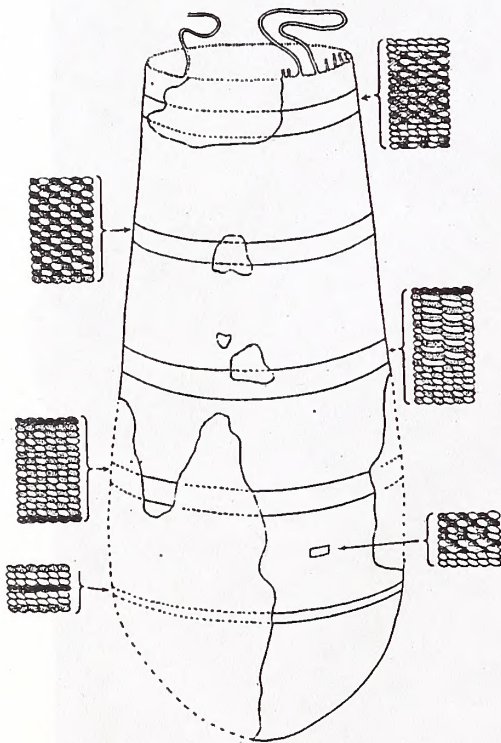
"It's time!" he exclaimed, almost unable to believe morning had arrived! Little Hawk grabbed his new moccasins. Grandmother had made them from deerskin and hung dewclaws on the back of the heels. Little Hawk knew the dewclaws came from the hind legs of a deer. They made the moccasins very special. These were his first pair of moccasins. Grandmother told him that they would give him the power to stalk animals in the forest.

Pushing aside the deerskin hanging over the front opening of his house, Little Hawk stepped outside. There was just enough light to see the dark shapes of the houses. Nine other mud and stick houses stood along the sunny side of a small hill.

It was very quiet. All he could hear was the babbling spring at the bottom of the hill. At the top of the hill, he was pleased to see his grandfather's familiar shape waiting to greet the sun. Gradually, Little Hawk became aware of others who were up and about very early this special day.

Little Hawk went back inside the house and got his **BURDEN BASKET** to carry his things in. He finished packing what he and his mother had laid out for the trip. While he packed, his mother handed him a bowl of hot corn mush. She told him it was almost the last of their winter storage food.

Little Hawk knew that his mother had been grind-



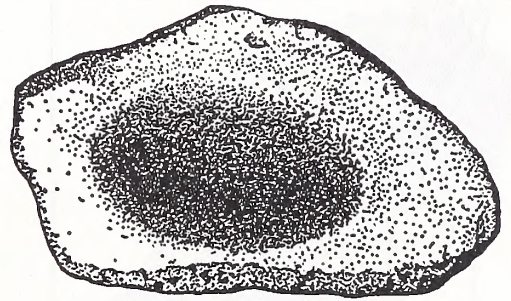
Large Fremont twined bag or burden basket showing the shape and design of woven, colored patterns.

ing corn on the grinding stone, or *METATE*, most of the previous day. She had worked hard to prepare food for the trip.

Little Hawk finished his breakfast. He then carefully cleaned and set down the gray, clay pottery bowl, one of his mother's best.

"Little Hawk, be sure not to wander far away," his mother reminded him, before he could leave. "Soon, your uncle will return. We'll be leaving when the sun is one hand above the mountain."

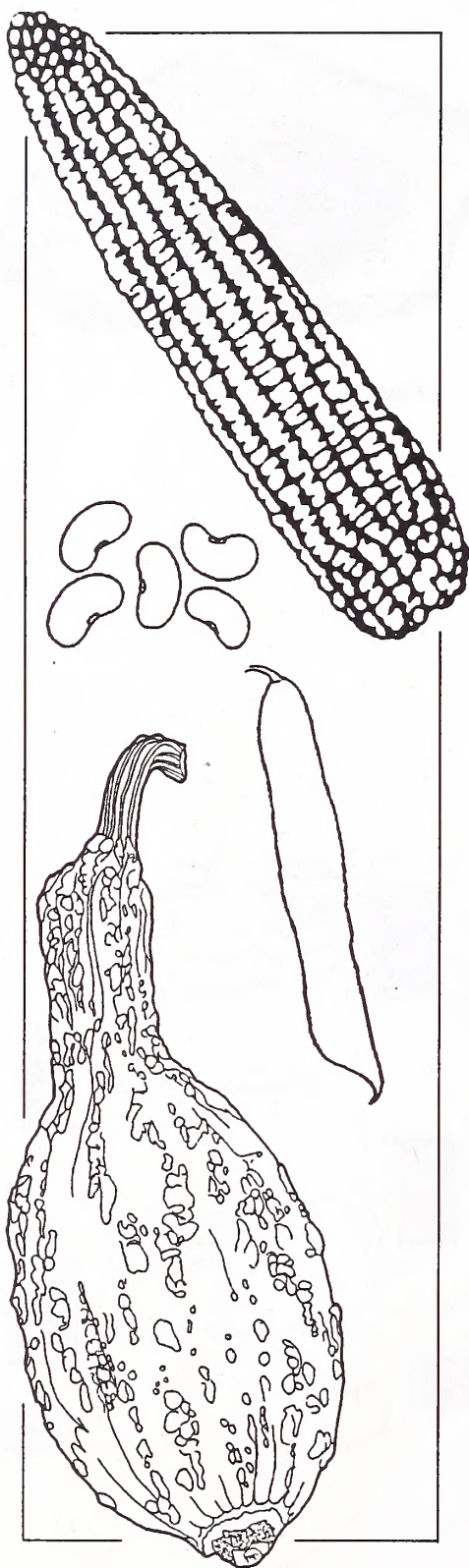
By now the sun was coming up. Little Hawk nodded



Metate



Fremont style rock drawing from near Mills Canyon, Colorado.



Corn, beans, and squash were planted in the springtime by the entire village.

and ran out the door to Grandmother's house. He wanted to say "good-bye" to Quiet Fawn, his little sister.

Little Hawk paused and held his hand out to measure how far the sun would rise before they left. It didn't have far to go, for it was already over the horizon! He had to hurry!

Quiet Fawn would stay behind with Grandmother and Grandfather, because she was only six summers old. The older people and small children stayed behind in the village to tend the fields. Earlier that spring, the whole village had planted CORN, SQUASH, and BEANS.

As he neared his grandparent's house, Little Hawk remembered Mother's words from last night.

"Little Hawk," Mother had said, "we might go as far as the valley where the buffalo took your father's spirit. We may also meet some Wide Head People."

Little Hawk knew the Wide Heads lived mostly in stone houses and wore YUCCA SANDALS. They had many wonderful things to trade.

"Little Hawk!" Quiet Fawn was glad to see him. She was waiting in the doorway at their grandparent's house.

"It is almost time to leave," Little Hawk said. "Come, we need to fill up water containers. You can walk with me."

"Do you really have to go? Can't you stay with me and Grandmother and Grandfather?" Quiet Fawn asked, as they walked toward the spring.

"I feel this Walk Away is one of the most important things I've ever done!" Little Hawk said. "For sure, we're going to stop and camp at the Great Spirit's Rock Wall."

"To get the spirit's blessing for your journey!" Quiet Fawn nodded. Little Hawk had spoken often lately of the Great Spirit's Rock Wall. She knew he had never seen the Great Spirit's Rock Wall, but he helped her picture it by sharing Uncle Great Bear's descriptions.

Everyone gathered to fill his or her water containers by the spring. Quiet Fawn knew Little Hawk's water container was very special to him. It had been their father's. Little Hawk got it the summer when Uncle Great Bear came back alone from the Walk Away hunt. Their father never returned. Uncle Great Bear had brought the water container back for Little Hawk.

Suddenly, it was time! The sun was one palm over the mountain! Little Hawk hurried to return Quiet Fawn to their grandparents. After a quick good-bye, he joined those going on the Walk Away.

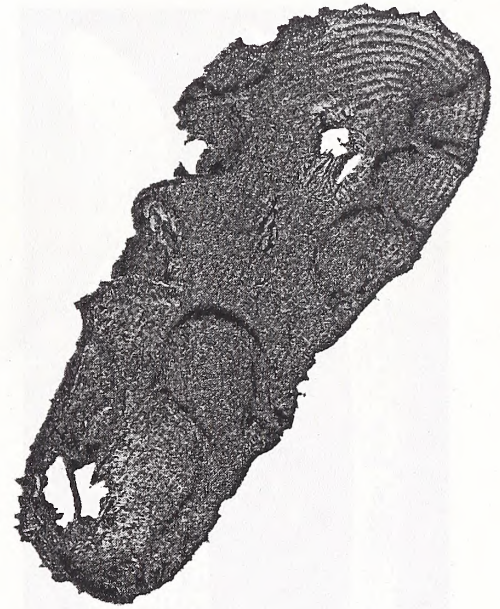
The hunting party and Little Hawk started the Walk Away moving down into the canyon. Those staying behind in the village stood watching them go. Little Hawk knew they sent good thoughts with them. Little Hawk saw Grandfather wave his arm once. Grandmother stood behind Quiet Fawn. It was hard to believe he wouldn't see his grandparents, Quiet Fawn, and the village again for such a long time!

With his spirits as high as an eagle flies, Little Hawk tried to keep from running through the canyon. Uncle Great Bear was the leader of the Walk Away. He had given Little Hawk some important advice. He said Little Hawk must look, listen, and learn every day, and every hour, of their journey.

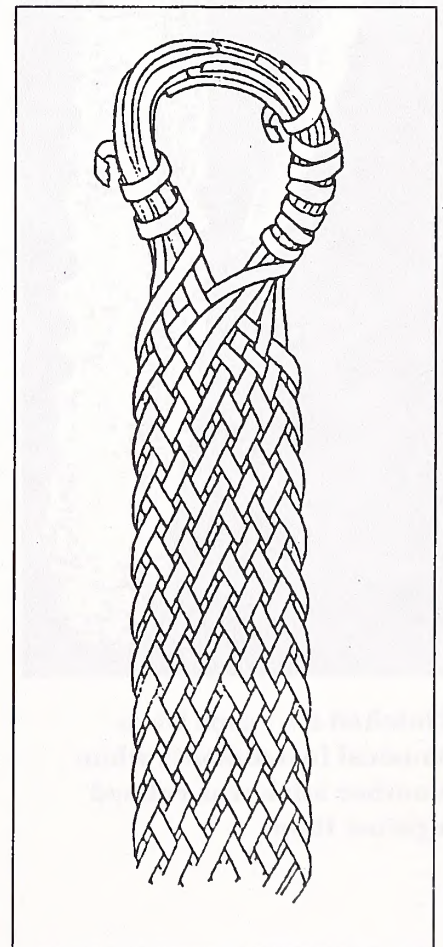
Soon, they settled down to a steady pace. Little Hawk thought about how his new responsibilities helped him to look at everything in a different way.

The sun moved high into the center of the sky. The pace was hard. Little Hawk bent his head forward, pressing against the **TUMPLINE** across his forehead and shoulder straps. The straps helped hold his burden basket that was packed for the trip, but his shoulders were tired.

At first, Little Hawk didn't notice that they were stopping. When he turned a corner in the canyon, he looked up and stopped in his tracks! Warriors! Huge men faced them with shields and spears, great head-dresses, and jewelry. Their fine clothes were of many colors—reds, yellows, blues, greens, and whites.



Woven sandal made from yucca.



Braided tumplines worn around the head helped the Fremont carry burden baskets.



Notched rib rasps were musical instruments when another stick was rubbed against them.

Then he noticed the warriors weren't moving. They were frozen in place on the wall of stone. Everyone quietly gathered around and gazed in awe at the canyon wall. Uncle Great Bear motioned for the group to sit and take off their burden baskets.

"This must be the Great Spirit's Wall!" Little Hawk realized, all of his senses tingling. He didn't even notice when Mother helped him remove his burden basket!

Uncle Great Bear stood up and began sprinkling corn meal at the base of the Wall. He placed a bundle of sticks as a token of prayer in a crack in the Wall. Then, he pulled a gourd rattle from his pouch. Shaking the rattle, he began chanting and dancing across the front of the wall. After what seemed a long, long time, Uncle Great Bear stopped. He motioned everyone away from the wall and toward the stream to make camp. In all this time, no one besides Uncle Great Bear had made a sound!

After setting up camp and eating, Little Hawk returned to admire the Great Spirit's Wall. He noticed many more spirits on the wall than he had noticed earlier. Deer, elk, BIGHORN SHEEP, dogs, lizards, cranes, and even birds were on the Wall with the warriors.

What were Uncle Great Bear and several other men doing? Looking closer, Little Hawk saw they were pecking in more figures of deer, elk, and buffalo onto the wall. Little Hawk sat down to watch them.

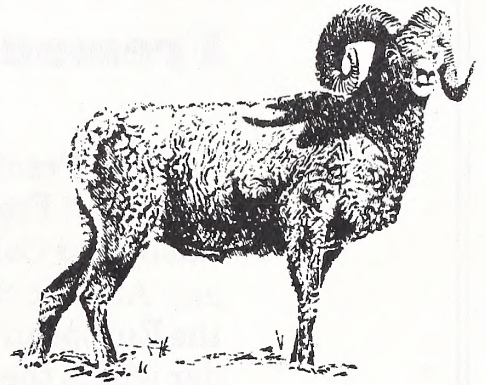
When they were finished, Uncle Great Bear called for everyone to come to the Wall. Several men put headdresses on. Little Hawk knew these headdresses represented the deer, elk and buffalo.

Little Hawk heard a familiar rasping sound. One man placed a bone with several notches on one side, or **RASP**, on a large, overturned gourd. He stroked another stick up and down the rasp to make the grating, scratchy sound. It made a steady rhythm. A man joined him, blowing on an eagle wing bone whistle. Together, the rasp and whistle made a melody. Soon, the men were

dancing and chanting to the music. Fascinated, he watched the men dance, losing track of how much time passed. How he wished he could join them! But Little Hawk knew that before he could join the hunters, he had to prove himself on the hunt first.

Later, when Little Hawk lay down on the woven mat next to Mother, he felt very happy. This was the best day of his whole life! He knew that the spirits must be pleased. The hunters would have a very successful hunt.

Then Little Hawk fell sound asleep, images of the spirit wall still dancing in his head.



Bighorn sheep were often drawn on rock walls by the Fremont people.



“These people you call the Fremont may have been my ancestors,” Tommy said, when John finished his story. “I am Ute, and our people lived throughout these mountains until the Americans came and settled our hunting grounds. We made our living in much the same way as the people the archaeologists call ‘Archaic’ did, hunting and gathering.”

“Can you tell us more?” Ron asked. Tommy nodded, making himself comfortable. ❖

Fremont Summary

The Fremont lived in the area for about nine centuries. Most Fremont people disappeared from the Great Basin and Colorado Plateau areas by 600 to 700 years ago. Archaic cultures continued to exist in the area until the European settlers arrived. Archaeologists still wonder where the Fremont came from. They wonder where the Fremont went or why they may have changed their lifestyles.

Food—Some Fremont groups were like Archaic peoples relying mostly on hunting small game and collecting wild plants. Other groups lived more like the Ancestral Puebloans with farming being important.

Territory—The Fremont lived in distinct territories.

Clothing—The Fremont wore a combination of skins and woven clothes, sandals and moccasins, and some jewelry.

Groups—The Fremont often lived in small scattered communities and moved around more than the Ancestral Puebloans did.

Tools—The Fremont used stone, bone, and hide containers. Some groups had pottery. They used the spear and atlatl for weapons.

Other—Their rock art or rock drawings were well developed.

Archaeological sites—The sites are highly variable but the best known sites are the spectacular rock art panels. Other sites resemble archaic camps and some have piles of stone marking collapsed structures.

Shelter—The Fremont used pit houses and stone buildings.

Word List Chapter 4

burden basket—a basket used to carry heavy loads on the back.

Fremont—people who lived in western Colorado, most of Utah, eastern Nevada, and southern Idaho for about nine centuries (from about 1500 to 600 years ago). They practiced some farming, but continued hunting and gathering for much of their foods.

petroglyph—pictures created on rock surfaces by striking the rockface with a harder rock.

pictograph—a prehistoric painting on a rock wall.

rasp—a harsh, grating sound, hence a scraped “musical” instrument that makes a rasping sound. They usually have a resonator or are played over a bowl, gourd, or similar object to make the sound louder.

tumpline—a strap slung across the forehead or chest to support a load carried on the back.



Wolf, Little Deer, and the Ute Bear Dance (Amama-kwa-nhkap)

by **Patricia Walker-Buchanan**

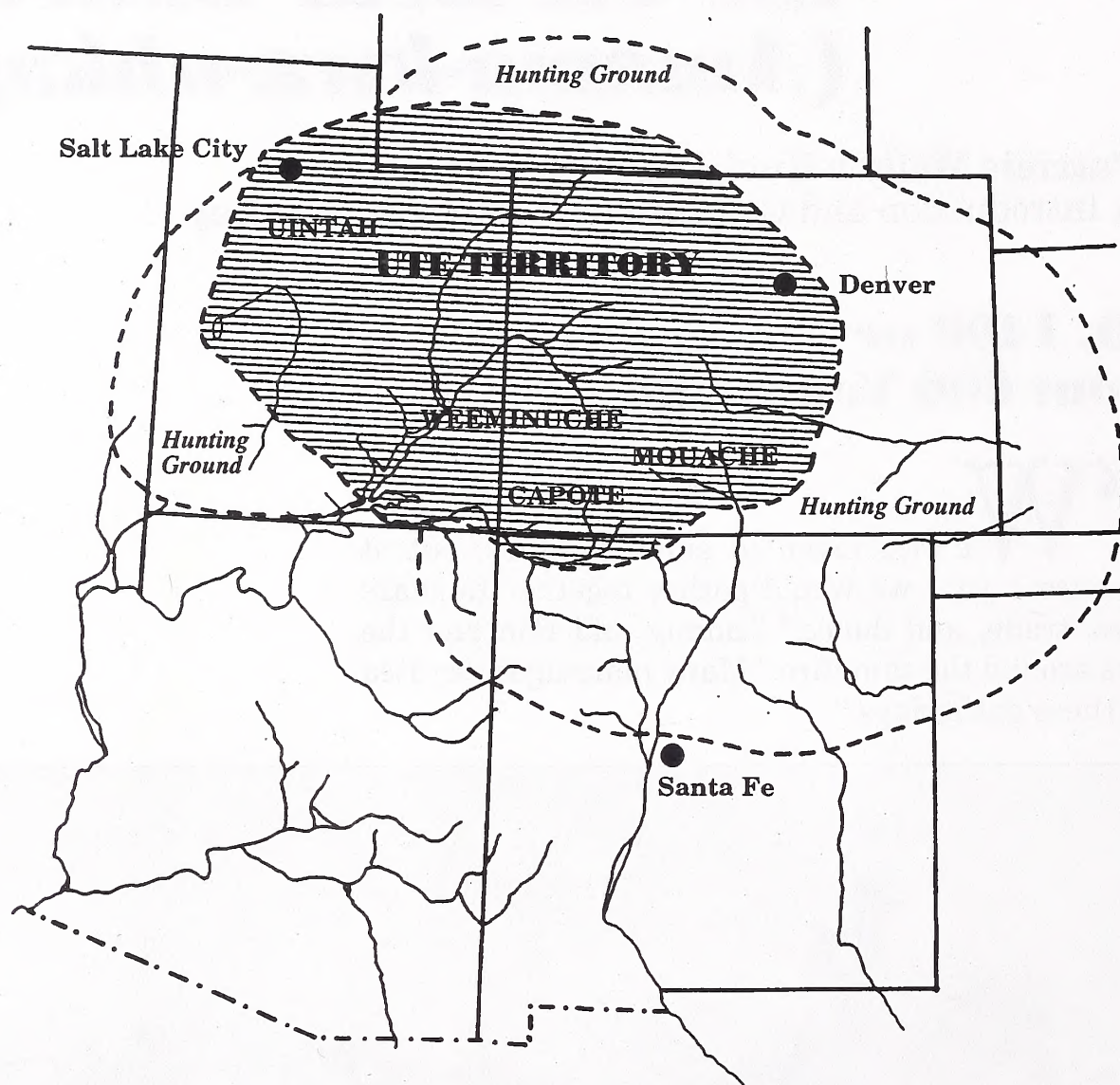
with Introduction and Conclusion by **Bruce A. Bradley**

**A.D. 1400 or
About 600 Years Ago**

“W E UTES LIVED in small families, but at least once a year we would gather together to share stories, trade, and dance,” Tommy told Ron and the others around the campfire. “Many marriages resulted from these gatherings.”



Ute horseman “Monte Game” rides near Towaoc in southwestern Colorado about 1908.



Original Ute Indian Territory

Ute culture spread to over 150,000 square miles (388,500 sq. km).

It covered parts of what are now Colorado, Utah, and the northern parts of New Mexico and Arizona.

Each Ute band had a sacred mountain. Blanca Peak and Ute Mountain are examples of these peaks.

“Grandpa,” Tommy said to an older man, “tell us about how you and grandma first met.” At first his grandfather did not speak, and he looked as if he were thinking of a different place and time. Everyone waited in silence as the fire began to die down. Several people went to get more logs for it. They returned, and soon the fire was burning strongly again.

Finally, he began.



“Grandfather, why are we going so far?”

“Hush, *Sinapi*, you must be quiet,” Grandfather scolded softly. “Respect the spirits as we climb into the canyon, like your namesake, *Sinapi* — the Wolf. Signal to your sister to come up now. You must try to look and listen more and speak less. Remember the stories I told you?”

Behind him, Wolf nodded.

“I’m not going to be around forever,” Grandfather reminded him. “Some day you will have to teach *your* grandson.”

Wolf hated it when Grandfather talked about not always being here! He wanted Grandfather around forever. He was here now, and Wolf had to rush to keep up with him! Wolf and Little Deer climbed behind Grandfather, high into the canyon. They were collecting cedar boughs for the biggest event of the year — the annual spring dance, BEAR-comes-out, or *tama-maatukwu-ci*, held every April.

Wolf, like everyone else, was full of excitement about the event. Everyone from far and wide would come from his or her canyon to tell stories, dance, and feast.

It seemed longer than one whole year since Wolf had last seen his cousins and played many games. His



The bear’s emergence from its winter den is a time of celebration for the Utes.



Cedar or juniper tree. Juniper is sometimes called cedar by local people.



Wild Rose



Wild Onion

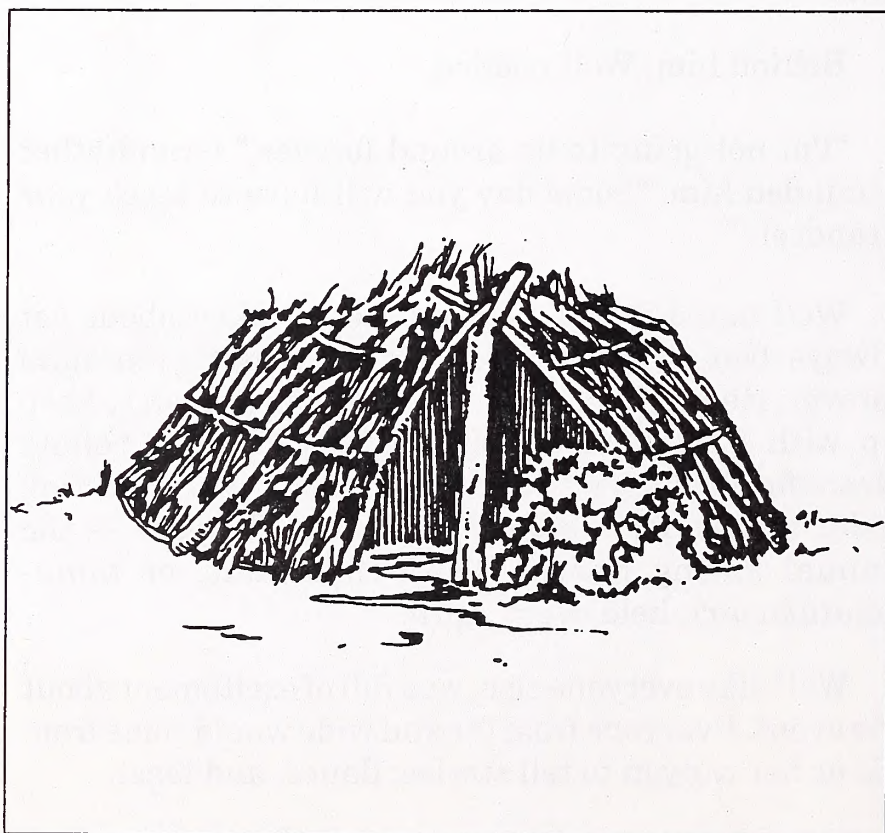
Wild roses, onions and other plants, along with wild game, provided a healthy diet for the Utes.

favorites were the arrow tossing game, called *patamakai*; a hand game, the *nai-wina*; and a spinning top game, the *tunu-pi-ni-pi*.

Little Deer had been very young at the last bear dance. She mostly remembered how Wolf had been busy with his cousins and left her behind. She remembered noises that had frightened her, and a lot of people she didn't know. Everyone was excited about the bear dance, but Little Deer wasn't sure how she felt about it.

All the climbing, hot sunshine, and hiking with their loads made collecting the CEDAR boughs very hard work! When they finally followed Grandfather back into the village that night, Wolf and Little Deer were bone tired. They wearily carried the freshly cut boughs to the bear dance grounds. The many others who brought their loads looked as tired as Wolf and Little Deer felt.

Little Deer left Grandfather and Wolf outside the bear dance circle. She took her bundle through the east entrance. Then she went to the south side, the women's



Wickiups provided good shelter for people on the move.

side of the circle. Wolf took his bundle to the north, or the men's side. Grandfather went straight to the west side. He helped some others properly place a large hollow log. Tomorrow, the log would represent sounds of the bear rising from a long winter's sleep.

Relieved to be free of his load, Wolf went to his home, or **WICKIUP**. Grandmother looked up from the cooking pot and smiled when he came in the doorway.

"Here Grandmother," he said, giving her the two rabbits he'd shot with his bow and arrows while hiking that day.

"Thank you, Wolf! Just what I need!" Grandmother smiled, and immediately began preparing the rabbits for the pot.

When Little Deer left the bear dance circle, she went to her mother and father's camp.

"Here, Mother," she offered. Little Deer gave her mother the **WILD ROSE SEEDS**, **ONIONS**, and berries she had collected along the trail all day. Her mother was happy to add them to their evening meal.

Tonight of all nights, Little Deer wished that the old ways had not guided Wolf to live with Grandfather. She missed him already! Her mother and father told her often that it was the old way. Wolf was learning from Grandfather. Following the old ways was also the best way to pass on tribal **traditions**, like the bear dance.

While mother cooked, father carved by the fire. Little Deer knelt next to him, watching. Using his stone knife, or *winu-pi*, he worked on the notched **RASP**, or *morache*. Tomorrow, he would place it on the great log. Grandfather and seven other men would rub up and down on the rasps, using the leg bones of deer. The great log would amplify the sound. The rasps would make the sounds of a bear roaring.

For the rest of the evening, Wolf could hear groups arriving in the village. He could barely contain his excitement! He knew the new arrivals brought food, trade goods, and many, many new stories. It was hard



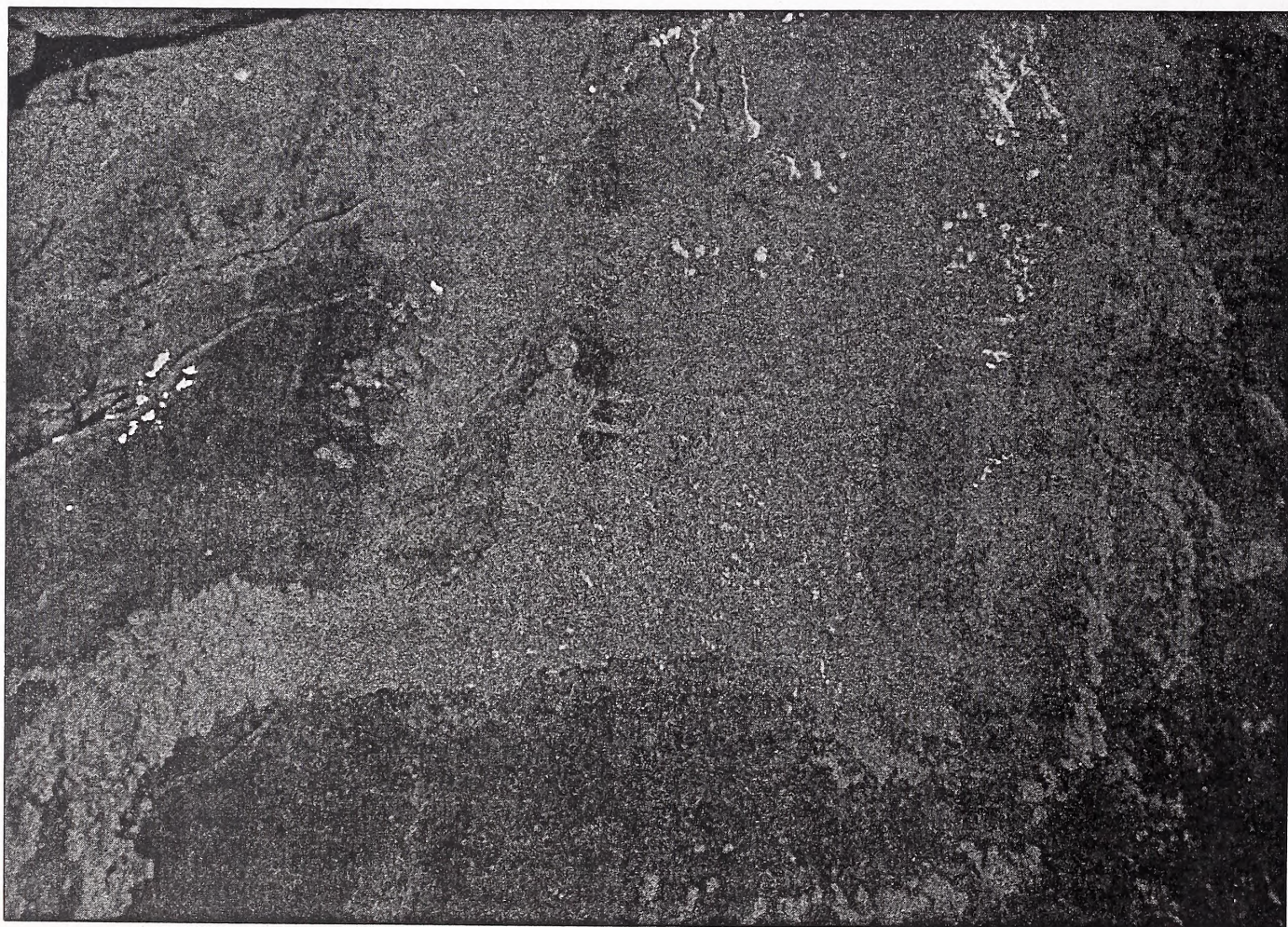
Notched rasp made of bone. A rasp, or *morache*, was placed against a large hollow log. Then a deer leg bone was rubbed against the teeth of the rasp to create a grating sound. The hollow log amplified, or made the sound louder, just like the body of a violin makes the strings sound louder.

to get to sleep that night.

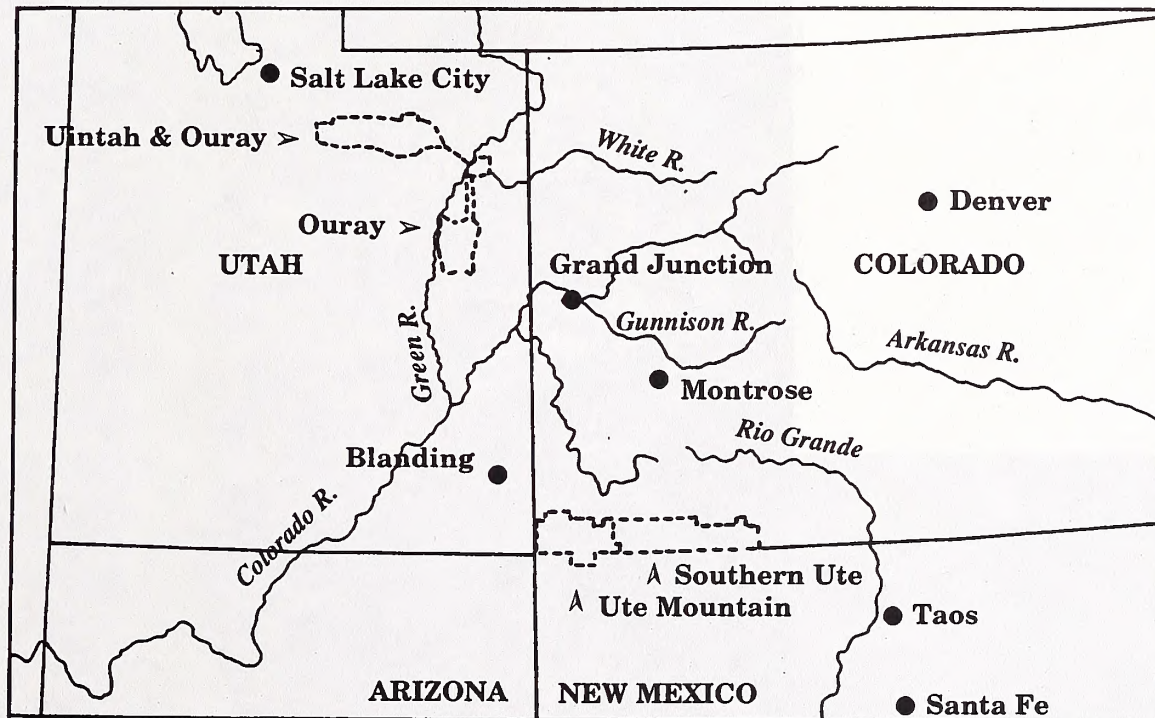
Wolf woke up before the sun, *wicukwu*. For a minute, he lay listening to the sounds of the dark morning. For the first time, Father had said that Wolf was old enough to dance this year. He was very proud, but he knew it also meant that he had to **fast**, or go without food, for four whole days! Now *that*, he knew, wasn't going to be easy! It seemed Wolf was always hungry, even right after a meal!

"The fasting will get easier, Grandson, as each day goes by," Grandfather said. Wolf hoped so! He felt nervous, worrying if he could do it. He wanted to be the man his father and Grandfather thought he was. Wolf didn't want to be the scared boy he was fighting inside.

Outside, Wolf heard people moving around. He reached over for the new porcupine-quilled shirt, or



Ute rock drawing of a horse and rider from west central Colorado.



Ute Reservations Today

There are three Ute Reservations: The Uintah and Ouray (Northern Ute) in Utah, the Ute Mountain Ute in southwestern Colorado and a small holding near Blanding, Utah, and the Southern Ute around Ignacio, Colorado. Many places in Colorado are sacred to the Utes even today. The Utes hold Bear Dances in May and June each year. They are developing their natural resources to create more jobs for tribal members.



Ute rock art of a battle scene from west central Colorado.

mataiwita, Grandmother had made for him. With the beautiful shirt, Wolf was sure all the girls would notice how fine he looked today! Last year, he hadn't cared what the girls thought!

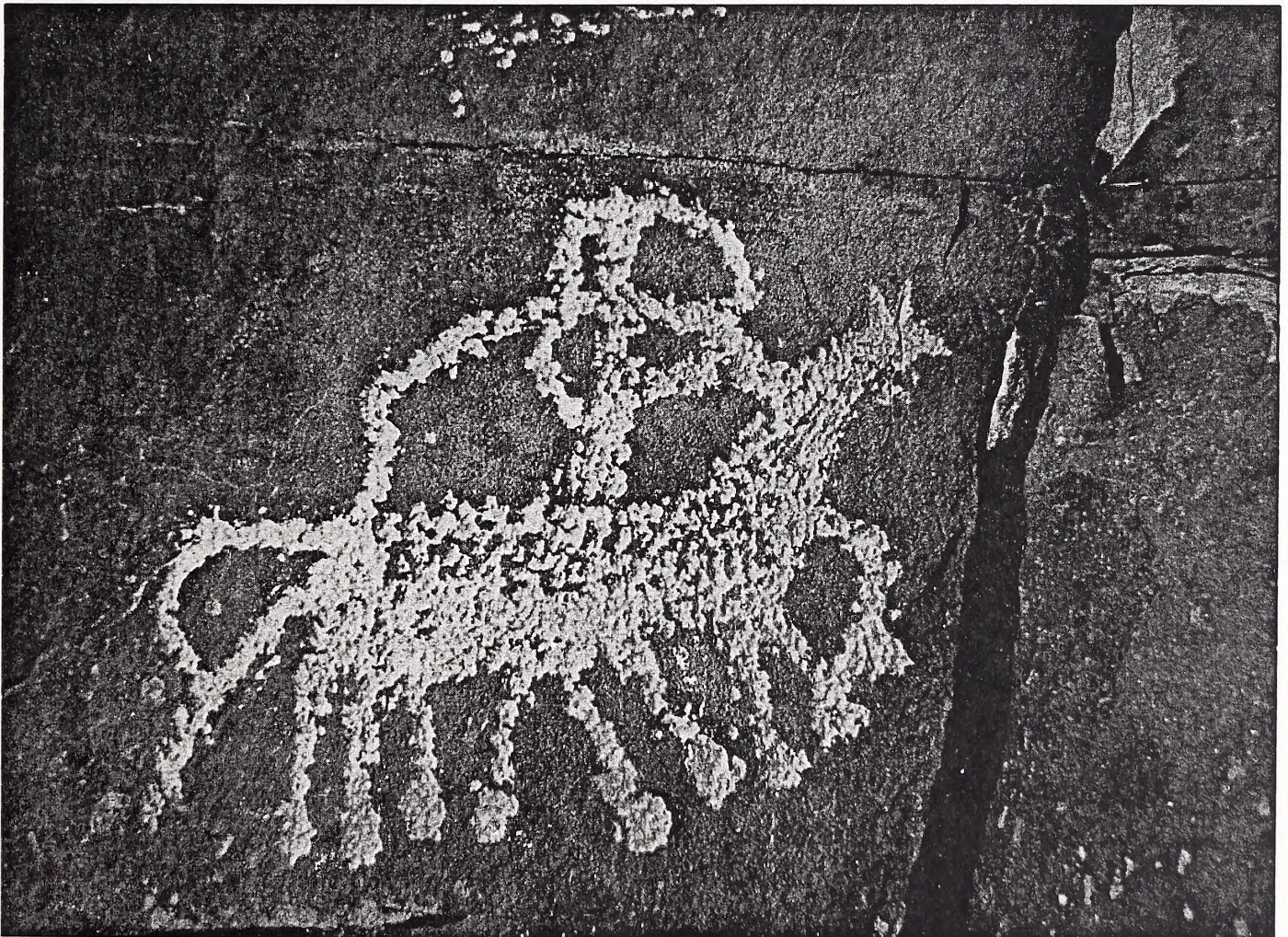
During the morning, the people arranged the cedar boughs fence-like, in a circle. This formed an **arena** for dancing within the cedar boughs.

By noon, the bear dance *arena* was completed. The large circle was ready, and all of the people, or *nuche*, had gathered around. Wolf and Little Deer watched with the others.

In the center of the circle stood the dance leader, Cat Man, or *Moose-a-la-pete-ah*. The eight musicians stood behind the hollow log and placed the rasps against the log. They began rubbing their carved rasps with the deer leg bones. The sounds echoed through the log.

Cat Man waved his long willow whip to the south side of the arena. It was time to start the dance! Several women and older girls, all wearing **shawls** around their shoulders, stood up and walked to where the men sat on the north side. At the bear dance, it was always the women's choice to pick their dance partners.

Wolf was very nervous. He hoped no young woman would wave her shawl at him!!! He had thought he was ready, but now he wasn't so sure! Wolf waited, watching the women and older girls approach. They walked back and forth in front of the men, studying their choices. Wolf noticed a very pretty girl walking by. He saw her



Ute rock art or drawing of a "warrior" from west central Colorado.

wave her shawl, but wasn't sure it was for him.

Wolf quickly glanced at the man to his left. Instead of rising, the man nodded slightly at Wolf. Wolf was chosen!

Nervous, but proud, Wolf jumped up and followed the other chosen men into the center of the arena. They all lined up in a long row.

The women and older girls lined up in a long row facing the men. The "BEAR" log continued to roar. Both rows moved back and forth, staying in line. It seemed like they had gone back and forth a hundred times! Finally, the Cat Man began dropping his willow whip between the men and women, pairing them off.

Wolf watched Cat Man approach his place in line. Before he knew it, Wolf was skipping across the arena at a very fast pace. The pretty girl held onto his arm.

"This is *really* a lot of fun!" Wolf thought, surprised. He hadn't expected to enjoy it so much! "I hope that I can be strong and dance for three full days and nights without falling down — or eating!"

One day seemed to blend into another, as the people swayed back and forth across the arena. When evening approached on the third day, the music never stopped or slowed. Someone finally dropped from exhaustion.

Just as the dancer collapsed, another dancing couple appeared out of the side of the arena. This dance couple wore skins like a male and a female bear.

Finally, all dancing stopped and the couple sprang into the circle. They pawed and pranced. Wolf knew the bear couple's dance meant that the spirits had heard their prayers and awakened the earth.

When everyone left the circle, they left a **token** behind. Their tokens could be a feather, something from a cedar tree, or some other special sign they'd collected from nature. Their token was a symbol that meant their problems or any sickness, or those of family members, would be left behind. They could now start a new life and



Bears sometimes growl and roar. The bear dance musicians imitated this sound with their rasps and the hollow log.

a new year. Like the bear leaving its den behind, everything was starting anew.

Wolf didn't think he'd ever been so tired in his life! He didn't remember saying goodbye to the pretty girl, going back to Grandfather's wickiup, or falling onto his sleeping mat. He didn't see Little Deer watching him dance those three days, or in the time afterwards, with lonely, sad eyes. The dancing had so exhausted Wolf, that he knew nothing more until the next day.

The next day was feast day! Everyone gathered around and talked. They played games and traded wonderful things from everywhere. While the people set up the feast, Wolf's stomach rumbled so loudly that he thought everyone would hear! During the feast, Wolf ate and ate until he thought that he would burst.

"Little Deer!" he called, seeing his little sister. But she didn't notice him, for she was busy playing games with her new friends. She was wearing the biggest smile Wolf had ever seen on his sister's face.

Then, just as he finished eating, he saw the pretty girl walking out of camp toward the cool, rushing creek. He grabbed his canteen and ran after her. Ah! He was glad it was spring!



"I wish I could see a bear dance!" Ron said, when Tommy's grandfather finished his story.

"You should some day," Tommy replied. "Every Spring, each Ute tribe still holds a Bear Dance. It is important to us to have many people there, especially on the last day when we have long lines of dancers."

"Archaeologists believe the Utes have lived in Colorado since about A.D. 1400, or about 600 years ago," said Ron's Mom. "Some also believe that the Fremont people may have been ancestors of the Utes. Some scholars

The Navajo People



Two Navajo women in traditional dress pose near a hogan door near the Colorado-New Mexico state line.

Few if any Navajo people lived in Colorado in prehistoric times. However, they used parts of southern Colorado for hunting and gathering food and materials. The first Navajos were hunters and gatherers; later they farmed corn. Archaeologists believe the Navajos came to this region about 700 years ago. The Navajos believe they have always lived here. Dinétah, the sacred land of their origin, is in northwest New Mexico, not far from the Colorado border.

Two Colorado peaks are sacred to the Navajos. Blanca Peak is on the eastern edge of the San Luis Valley. Hesperus Peak is part of the LaPlata Mountains between Durango and Cortez. At least one clan, the Bitter Water People, traces its origins to southwestern Colorado.

Today, most Navajo live in the Navajo Nation in New Mexico, Arizona, and Utah. It is the largest Indian tribe in the United States, with over 150,000 members. Many Navajo people work in the government, in the schools, in shops and stores, in industry, and other businesses. Some farm or ranch. There are many fine Navajo artists and craftspeople.

even think Colorado Archaic people may be the ancestors of the Utes. This means that the Utes may have lived in North America for over 6,000 years!"

"The Utes were hunters and gatherers who lived in wickiups or shelters made from a pole frame covered with brush. They were excellent basket weavers," added Ron's Mom.

"And excellent with horses," added Tommy.

"The arrival of horses changed the Ute lifestyle," said Ron's father. "However, they kept most of their traditional ways until the late A.D. 1800s. They hunted buffalo (bison) when they were near herds on the plains or in the large mountain valleys of Colorado. The Utes of southern Colorado often fought with the nearby NAVAJO and other tribes. They traded with the Rio Grande Pueblos. After the introduction of the horse they raided Pueblos and European settlers for livestock, especially horses."

"Did the NAVAJOS live in Colorado?" Katie wondered.

"The Navajo people did not live regularly in Colorado, although they may have hunted in southern Colorado. They still consider both Hesperus and Blanca Peaks to be sacred landmarks," Katie's mother responded. ❖

Ute Words

- *Amamama-kwa-nhkap* “Ute Bear Dance”
- *mataiwita* “porcupine-quilled shirt”
- *Moose-a-la-pete-ah* “Cat Man Dance Leader”
- *morache* “notched rasp”
- *nai-wina* “hand game”
- *nuche* “people”
- *patamakai* “arrow tossing game”
- *Sinapi* “wolf”
- *tama-maatukwu-ci* “bear comes out”
- *tunu-pi-ni-pi* “spinning top game”
- *wicukwu* “sun”
- *winu-pi* “stone knife”

Ute Summary

Archaeologists believe the Utes have lived in Colorado for about 600 years. Some believe that the Fremont people may have been ancestors of the Utes. Some scholars even think Colorado Archaic people may be the ancestors of the Utes. This would mean that the Utes have lived in North America for over 6,000 years. The arrival of horses about 400 years ago changed the Ute lifestyle. However, they kept most of their traditional ways until the late A.D. 1800s.

Food—The Utes hunted animals, especially bison or buffalo, when nearby, and gathered wild plants.

Territory—They moved from place to place within specific areas, following seasonal rounds.

Shelter—The Utes lived in wickiups—shelters made from a pole frame covered with brush. They were excellent basket weavers.

Clothing—Utes wore leather shirts, dresses, and moccasins.

Groups—Ute family and clan groups lived together in bands. There were seven bands, each with a specific territory. The Utes gathered together for ceremonies.

Tools—Utes used stone, bone, leather, some pottery, baskets, and grinding stones.

Other—Ute rock art or rock drawings are common, and quill work, and later beading, were important artistic crafts.

Archaeological sites—Ute sites are very difficult to distinguish from archaic camps except for the presence of distinctive arrowhead forms and occasionally a scatter of Ute pottery sherds. More recent Ute sites may also have rock art and structures known as sweat lodges.

Word List Chapter 5

arena—an enclosed area in which activities take place.

fast, fasting—going without food, thought to clean the body for religious or spiritual ceremonies and events.

shawl—a large piece of cloth worn around the shoulders, neck, or head.

token—an object that stands for something else.

tradition—the passing down of ideas, ways of doing things or customs, and beliefs from one generation to the next; an idea, custom, or belief that is passed down by tradition.

wickiup—a frame hut covered with bark or brush matting.



Plains Indians: Little Willow of the Cheyenne

by **Maxine McBrinn**

with Introduction and Conclusion by **Bruce A. Bradley**

AFTER TOMMY'S GRANDFATHER finished his story, only the crackling campfire again broke silence. Several new people had joined the group after the story about Wolf and Little Deer had begun. One of these newcomers said, "This reminds me of a story that my grandmother told me when I was a child. I come from the ARAPAHO tribe, but my grandmother was CHEYENNE."

"Cheyenne!" Ron exclaimed. "Can you share the story with us?"

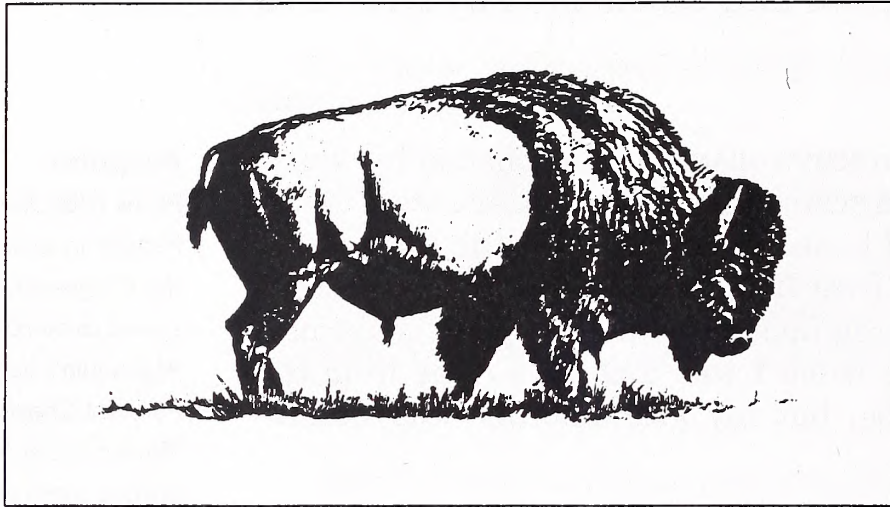
Arapaho

Plains tribe, *Inuñaina* meaning 'The People' in their own language. Like the Cheyenne, their language seems to be rooted with the Algonquin's language. The Arapahoe and Cheyenne once lived in Minnesota, but enemy tribes pushed them westward onto the Great Plains, where they followed the buffalo herds.



An Arapaho camp photographed about 1884-85.

American Buffalo



The American Buffalo or bison roamed the Great Plains in vast herds.

The American buffalo (or bison) meant life for the thousands of Plains Indians. Buffalo and bison provided all of the basics for survival: food, shelter, and clothing.

- The calfskin was used for swaddling babies.
- They sewed large tough hides together to make a tipi or lodge for an entire family.
 - Hides provided the soles of moccasins, bags, robes, and thongs.
 - The thick neck pelt made shields.
 - A single hide could be a bullboat for floating on rivers.
 - The paunch made a cooking pot.
 - The woven buffalo hair became rope.
- They used bones as tools—scrapers, awls, and knives. Tied with rawhide, the ribs made sleds.
 - Winter hides, with heavier fur, made shelter and provided warmth.
 - They used the fur to stuff cradleboards and pillows.
 - The buffalo provided great amounts of meat.

- The people created game dice, leather dolls, and toys made of horn or bone.
 - They made ornaments using the hair.
 - The animal's tail was often a lodge decoration.
- The buffalo beard often decorated both clothing and weapons.
 - Headdresses contained horns and hair.
- The buffalo was important spiritually to the people. Medicine men or shaman used the first of the animal's four stomachs to combat frostbite and skin diseases.
 - The bladder became a medicine bag.
 - The tail was a medicine switch.
- People highly valued rare yellow and white buffalo hides and they wore them often during ceremonies or rituals.
 - They made rattles out of buffalo male organs or hooves.
 - They made rawhide drums and drumsticks.

After the horse arrived, it became easier for the people to hunt buffalo. When the American government opened up the west to settlement, millions of buffalo were slaughtered by the newcomers. Without the buffalo the Plains Indians could no longer follow their traditional way of life. Many fought to defend their ways, but they could not stop the flow of new people into their country. The slaughter was so great that at one point perhaps as few as 800 buffalo remained. Today there are about 200,000 buffalo. Some ranchers raise buffalo for meat.

“Sure!” the woman replied. “She told me . . .”



“This is heavy!” Little Willow exclaimed, as she climbed up the streambed’s banks. She carried a water sack made out of bison heart lining. It was now bulging with fresh water.

The sack was heavy and the hide straps cut into her palms. Luckily, Little Willow didn’t have far to go, so she didn’t stop to rest.

She could almost smell the stew! This water was for her mother, who was making dinner. It was also their drinking water. They drank only fresh water. Stored water became stale and didn’t taste good.

Her mother made the stew from fresh BUFFALO meat and turnips. This was food they ate almost daily in the fall, but Little Willow didn’t mind. Her mother made it so delicious! She used dried herbs and fruits to season it. In the spring and summer, her mother used fresh plant foods that Little Willow helped her gather. These included thistle stalks, artichokes, fruits, berries, and tender leafy greens. What they didn’t use immediately, they dried. At this time of year, most of those foods were no longer available.

Little Willow knew winter would bring even less variety. Too soon, the dried meat and turnips would become less welcome.

It was late! Little Willow hurried back through the camp toward her family’s lodge. Carrying the water sack, she crossed the wide circle made by the lodges of the camp.

“Red Cloud!” she called out as she neared one of the lodges. She paused, hoping to see her friend. However, instead of Red Cloud, Little Willow saw only staked



An unidentified Cheyenne woman photographed by Edward S. Curtis, 1911.

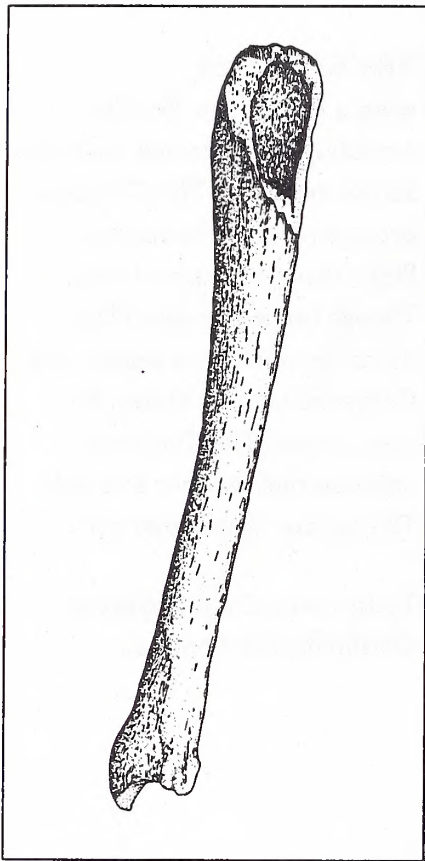
hides outside her friend's lodge. Obviously, Red Cloud and her family were no longer working on the new hides.

Earlier, when Little Willow had passed by, she saw that Red Cloud was tanning her first hide all by herself! Red Cloud's little sister, Magpie, was helping their mother with another hide. Little Willow had not stopped

The Cheyenne

were a Plains tribe, like the Arapaho, who followed the buffalo across the Plains. The Cheyenne eventually made the southern Plains their permanent home. Though not all western Plains tribes became horse dealers, the Cheyenne became known for their horses. The Cheyenne honored their women and girls. They at one time raised corn.

Today many Cheyenne live in Oklahoma and Montana.



Bone hide flesher. The people used these to scrape animal hides clean after they had removed the hide from the animal's body. Once the hide was clean it could be used or made into leather by tanning.

to chat then, thinking she would visit on her return.

Most of the women and older girls were no longer working outside. Now all were inside the lodges cooking the last family meal of the day. The men and boys were still working, talking, or playing as they had earlier. A few younger girls were still outside playing a kicking game.

Little Willow's lodge wasn't far now. The water seemed to get heavier with every step. Little Willow paused for a moment, resting the water sack on her leg. She studied the staked hides. The fully scraped hides had no flesh remaining on them. They had been thinned



Chief Wolf Robe, a Cheyenne warrior, 1898.

with a bone that had been rounded at one end, a **FLESHER**. All the hides needed now was softening. Little Willow picked up the water sack and hurried on, knowing that her mother needed the water. She hurried even faster when she remembered what might happen tonight!

Little Willow hoped that tonight Red Wolf's messenger would come! White Owl, her older sister, was daily expecting Red Wolf to ask for her in marriage. Little Willow wanted to be there when Red Wolf's messenger came. She had never seen what happened when a young man wanted to marry a young woman. It was exciting! There! Her lodge was the next one.

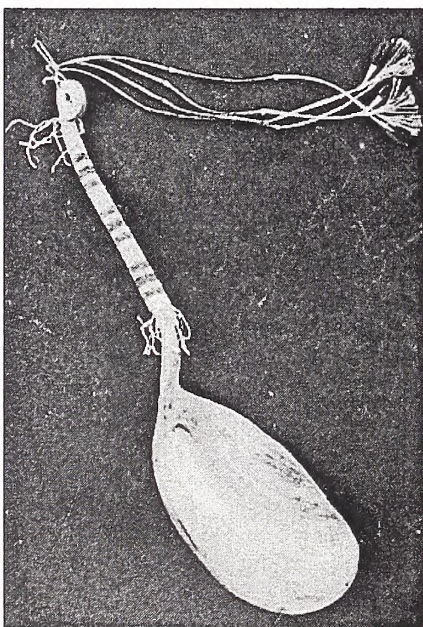
Little Willow had often heard the story of her parent's



Chief Crazy Head, a Cheyenne warrior.



Comanche woman with infant in cradleboard, about 1900.



Bison horn spoon or ladle
used for cooking.

becoming husband and wife. She knew that her father sent his old aunt to ask for her mother as a wife. Her grandfather was very pleased with the number of horses and other things her father sent to him. Grandfather had given permission very quickly.

At last she reached the lodge! She happily hung up the water sack on a pole, where it stayed. Although her hands were now sore, she was proud that her mother let her go to the creek by herself now. Parents didn't allow *little* girls to go so far alone!

Inside the lodge, Little Willow sat by her baby brother. He was alert and watching their mother. He could see everything from his CRADLEBOARD. The cradleboard was upright, leaning against a backrest. The baby looked up and gurgled at Little Willow, laughing when she made silly faces at him.

White Owl used a sharp knife to cut extra meat for the stew. Their mother stirred more vegetables into the cooking pot with a HORN SPOON. The mouth-watering smells of the bubbling stew filled the air of the lodge.

“Mother,” Little Willow asked, “why are you making more stew? I thought it was almost done when I left for the creek?”

Her mother laughed, looking at White Owl. “So did I,” she chuckled, “but we may have some more visitors for dinner tonight.”

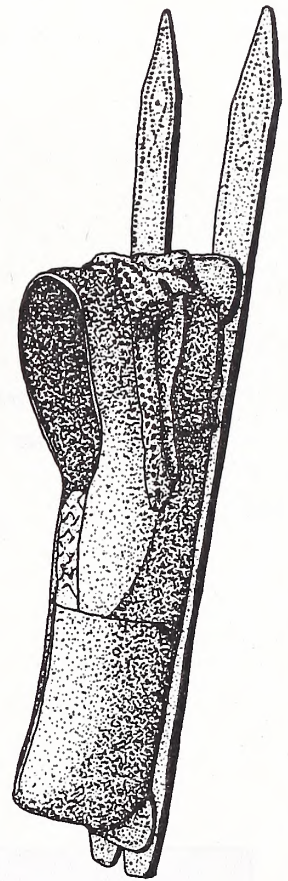
Little Willow watched her mother stir in the new ingredients.

“Your father tells me that he saw She-Who-Quills talking to Red Wolf,” her mother explained. She carefully adjusted the iron pot over the fire, making sure its curved bottom fit snugly over the coals.

“It seems that Red Wolf has been catching his HORSES and tethering them close to camp,” her mother continued. “He’s also been making piles of his belongings. I thought we should make sure we have some extra dinner, just in case some family drop by.”

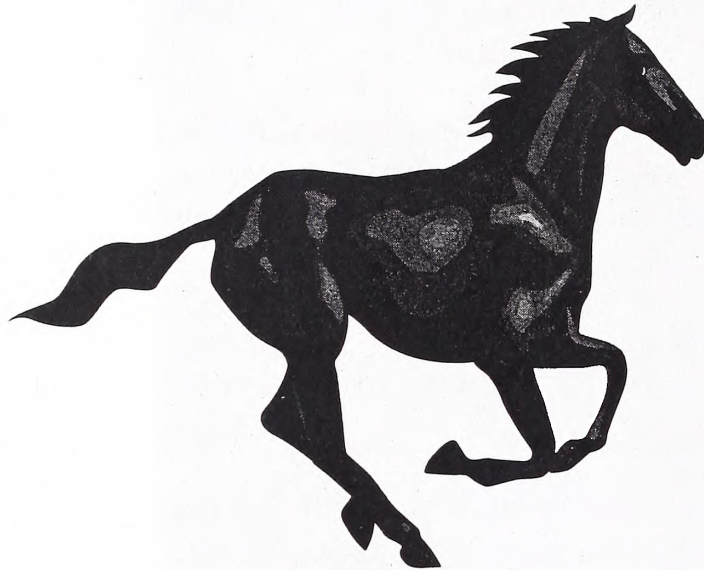
Her mother smiled fondly at White Owl, who blushed and ducked her head. Little Willow noticed her sister looked at the fire and cooking pot, instead of at her mother. She could feel a grin spread over her face. When White Owl looked her way, Little Willow tried to make her expression serious. She couldn’t help it! Little Willow began giggling a little at how embarrassed White Owl looked.

It sounded like Red Wolf was sending his old aunt, She-Who-Quills, to ask father’s permission tonight to marry White Owl. Little Willow was especially inter-



Cradleboard. The cradleboard design allowed mothers to put it down, perhaps leaning it against a tree, without fear of the baby hurting itself by falling. On the front of the board, a hoop guarded the baby’s face and head in the event the board fell forward. They used these boards until the child could sit or walk alone. The cradleboard could be strapped on the mother’s back by a cord that wraps around her head. The wood board has a small piece covered with soft moss that’s designed to support the baby when the board is upright.

The Horse



Brief Glory

The first horse probably evolved about 40 million years ago on American soil. However, the American Horse became extinct in the Americas at the end of the last Ice Age.

Bison-hunting and corn-growing Indians were very successful living on the Plains. This continued for hundreds of generations, before the arrival of Spanish explorers who brought the horse with them. By the 1730s, horses had reached the Missouri River. By the 1770s they had spread throughout North America.

On the Great Plains, the arrival of the horse made it easier for people to move around the seas of grass and buffalo herds. Hunter-gatherers quickly found the horse helped them have more successful hunts. It helped them move their belongings, and the sick and old people. They could have bigger tipis or lodges and larger stores of dried meat.

The horse became the symbol and center of Plains Indian life. They traded for horses and raided for them. They used horses to define wealth. Horses became a bride price and were the preferred gifts. So thoroughly did the horse become part of their lives, some Plains tribes denied there had ever been a time without horses.

Before the horse arrived, most small bands used a type of carrier, called a *travois*, pulled by dogs. These carriers were made with a frame of two poles, lashed together at one end, and covered with hides. The dog fit between the two poles.

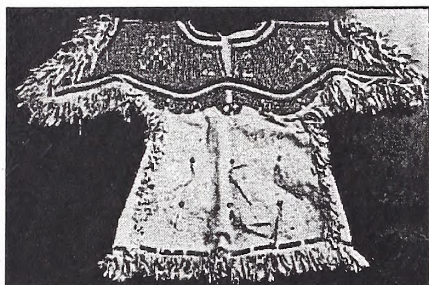
The dog *travois* carried their things when they walked from camp to camp.

Later, the *travois* was made larger so horses could pull it.

Often the long *travois* poles doubled as supports for large tipis.



Horse-drawn travois



Quilled child's dress, White owl had already made one quilled dress.

ested because she liked Red Wolf. She knew that when a man took more than one wife, he usually married his first wife's sister. Little Willow hoped that Red Wolf could someday be her husband, too.

Her sister had many **suitors**, young men hoping to marry her. There were evenings when a line of five young **WARRIORS** stretched outside their lodge. Each waited to talk to White Owl. White Owl was pretty and graceful. She cooked and sewed well, and she had already made one **QUILLED DRESS**. This was an impressive feat in one who was only seventeen winters old.

But Red Wolf was White Owl's favorite suitor, and Little Willow's favorite, too. Little Willow knew all about him! Red Wolf had already been to war. He had proven himself. He was brave and skilled. Red Wolf had even touched an enemy before killing him, called **counting coup**. He was a leader among the young men. Red Wolf was also a good hunter, often bringing back meat for his family. He was generous to his friends and to the old and poor people in their band. Once, Little Willow heard some old women say that Red Wolf might be a chief someday.

Then it happened! Little Willow's father poked his head into the doorway of their lodge.

"We have a visitor," he announced. Then he disappeared. He soon reappeared and carefully held back the sides of the leather lodge to make it easier for the old woman to come inside. Her father followed She-Who-Quills into the lodge or **TIP**.

She-Who-Quills stood just to the side of the door, careful not to stand between anyone inside and the fire. She looked very proud and formal. She waited until she had everyone's attention.

"Red Wolf wishes to marry your daughter, White Owl. He has sent the horses tethered outside, and all the things on them. This to show how much he values White Owl." She-Who-Quills said. Then, she turned and walked out the door. Soon she disappeared across the camp to her own lodge.

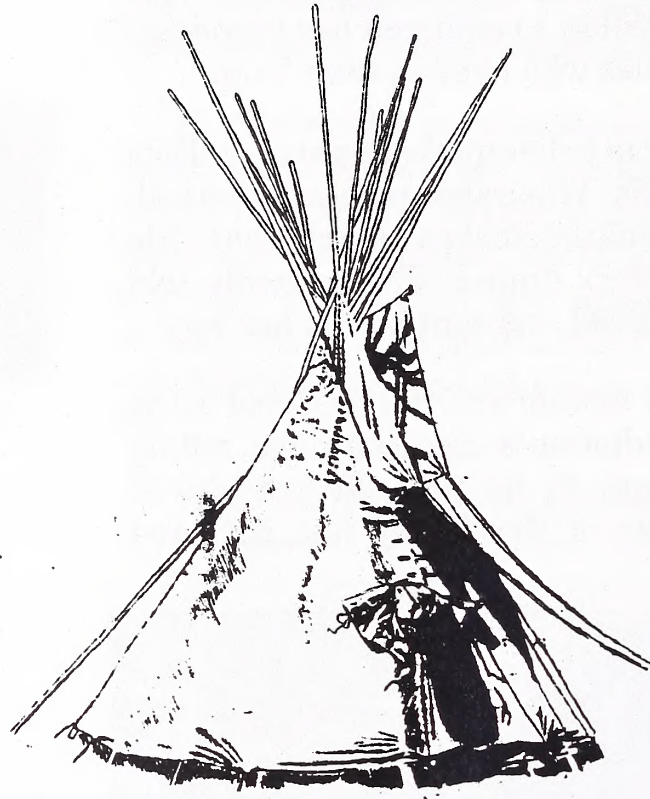
White Owl was blushing a deep red from excitement and nervousness. Her parents chuckled at her fondly. They then sent Little Willow to summon her grandparents and aunts and uncles who lived in their band.

First, Little Willow ran to her mother's parents. They lived in the lodge next door. When she announced herself, Grandmother and Grandfather looked up from the turtle shell bowls that held their dinner. She excitedly told them her news. They smiled and sent her on her way.

Next, she went to her mother's sister. She lived in the next lodge past her grandparents. She continued, telling all of her uncles and aunts. By the time she had arrived back at her home, most of the family had gathered



“Little Bird” an Arapahoe warrior, photographed about 1898.



The Tipi A Portable Home

Portable homes or tipis for Plains hunters often had smoke flaps, wooden removable lodge pins, a tipi lining of an additional layer of skin (often brightly painted) underneath the outer buffalo hides, and three or four tipi poles to make the framework. Inside the tipi, usually there were:

- quivers with arrows striped with colored paint to mark ownership.
 - *parfleches* that were closets and drawers of the tipi.
 - buffalo-skin bedding rolled and stored during the day.
- an altar for burning sweet grass or other incense during ceremonial occasions.
- wooden bows shaped by heating and bending, with sinew, rawhide, or twisted vegetable fiber bow strings.
- battle shields painted with pictures from the warriors's prayer visions to provide spiritual protection.
 - woven backrests and a cradleboard.
- a woman's sewing bag or hide pouch holding awls, sinew thread, beads, quills, grasses, paints, small bones, and tails from squirrels, ermine, weasels, or other creatures.
- buffalo-paunch cooking pot with the day's soup of buffalo meat, wild turnips, and wild onions.
 - firewood and heated stones for cooking.

outside. Her aunts, uncles, and cousins were admiring the twenty horses tethered at their doorway. They were peeking inside the packs the horses carried.

Little Willow walked past them and inside the lodge. She sat quietly, listening to what they said.

"Daughter, do you want to marry this man?" her father asked White Owl.

"Father and Mother, I will do whatever you wish," White Owl answered softly. This was what a dutiful daughter said when she was not against the proposed marriage. But Little Willow could see how scared she still was.

"Well then, we will consult," father announced. Then her father and mother withdrew to a place away from the fire and talked together, softly. Her older brother, Standing Bear, joined them.

Little Willow sat back in the shadows, straining to hear.

"Father, I believe that Red Wolf will make a good husband to my sister," said Standing Bear.

Her father looked at her mother, who nodded. "Yes, I agree. Red Wolf is strong and brave, and very fond of our daughter," Little Willow noticed her mother's eyes were shiny in the firelight.

Then her father stood. He turned, with a big smile, and spoke to the rest of them. All of the family had come inside the lodge. "Well, then, we should examine what this warrior offers my daughter," her father said.

Everyone laughed then, because they already knew that White Owl and Red Wolf would marry. They all went outside to look at the tools and weapons that Red Wolf had loaded onto his horses. Little Willow watched while her brother, uncles, cousins, and her father all divided up Red Wolf's belongings. Then they all ate. When the food was gone, every one left Little Willow's family and returned home to his or her own lodge. Little Willow's lodge felt very quiet.

The Comanches

These people were a Shoshone band that moved south into the Colorado plains after 1700. They were known for being very forceful and warlike neighbors. After 1820, they ranged in the southeastern part of Colorado. After 1840, they moved out of Colorado south to Oklahoma and Texas.



An unidentified Comanche warrior.

“What’s happening now?” Little Willow asked.

“We go to sleep!” her mother replied.

This surprised Little Willow. Somehow she thought more would happen tonight. Little Willow joined her

mother, father, sister, and brother and got ready for bed.

The next morning, all of those who had taken Red Wolf's gifts brought some of their own belongings to Little Willow's lodge. Each person tried to improve on what he had gotten, so that Red Wolf was better off than before. Father gave five horses, including his best horse. Her father's brother brought four horses, two sets of arrows, and a new war shield. Standing Bear provided a warbonnet and the rest of his war outfit. Her mother's brother gave his best horse and four more to Red Wolf. There were 24 horses, many with full packs, waiting to go to Red Wolf.



"Black Man" an Arapahoe chief, photographed about 1898.

Inside the lodge, White Owl dressed in the new dress she and mother had just finished making. They brushed her hair until it shone, and decorated it with beads and feathers. Little Willow thought her sister looked so beautiful!

When the men outside were ready, White Owl's family took her outside to where the men were waiting, and placed her on the finest horse. A neighbor woman came and led White Owl's horse toward Red Wolf's lodge. Behind her, Little Willow's mother and her female relatives led the other horses.

When they reached the lodge, Red Wolf's family appeared. They picked up White Owl and put her onto a blanket. Red Wolf's brothers picked up all sides of the blanket to carry White Owl into their lodge.

"Mother, what will happen now?" Little Willow asked.

"Red Wolf's family will dress your sister in the finest robe they own!" her mother explained. "They will paint her face and give her beautiful gifts. Then they will have a feast. Tomorrow, White Owl and Red Wolf will leave his family. They will set up their own lodge next to ours, just as our lodge is next to my parents."

Little Willow was still not sure how this would happen. "But White Owl and Red Wolf don't have a lodge, do they?"

"Silly girl, why do you think we've been tanning all those lodge hides?" Little Willow's mother teased. "We have enough hides for a new lodge cover. Tomorrow, all women in the camp will help us sew them together. Red Wolf's mother will give our newlyweds some other pots, dishes, beds, and back rests. So will I! Then, White Owl will have all she needs to take care of Red Wolf. This is how every new couple starts."

"I didn't know," Little Willow admitted. Then she smiled wistfully. "Some day, it will be *me* who will marry!"

Her mother just shook her head. "Now come, daughter," she said. "We will prepare a feast for them when

they come home tomorrow. Your sister is a married woman!"



After a few minutes of silence, a man who hadn't spoken began to softly sing a slow song. As people listened, they began to recognize the melody as a well known pow-wow song, and started to hum along. In the soft music and the dying firelight, the people were content and at peace. Each had learned something new about the other people with whom they shared the fire, and all felt a contentment as many drifted away to their own camp sites. ❖

Plains Indian Summary

Food—Plains people were mainly bison hunters, but they also ate small game and plants. Before the arrival of the horse some planted corn.

Territory—They moved from place to place, probably ranging widely following the seasonal bison migrations.

Shelter—Plains Indians used portable bison skin tipis.

Clothing—Clothing was made primarily from bison skins. They had fine, tailored leather clothing.

Groups—Most of the time the people traveled in small tribal groups. They would get together with other groups to cooperate in large bison hunts and social gatherings. There were different tribal groups.

Tools—They used the bow and arrow, lances, stone tools, and elaborate rawhide containers. Later, they used trade goods, including metal, from Europe and the eastern part of the United States.

Other—They had varied art forms, especially elaborate quill-work and its later form, beading, and hide painting. They had a well developed religious, ceremonial, and spiritual life.

Archaeological Sites—Typical sites are scatters of flaked stone artifacts, often associated with circles of stones or river cobbles. Sites are also sometimes found with accumulations of bison bones marking kill and processing sites, that look very similar to Paleo-Indian sites.

Word List Chapter 6

counting coup—a feat of bravery performed in battle, especially the touching of one's enemy without causing injury. Counting coup was practiced especially by Native American plains tribes.

flesher—a tool, often made of bone, with a sharp edge used to remove flesh from the hide.

suitor—a man who courts a woman.



Susan's Visit and the Mining Period

by **Frederic J. Athearn**

with Introduction and Conclusion by **Karen J. Laubenstein**

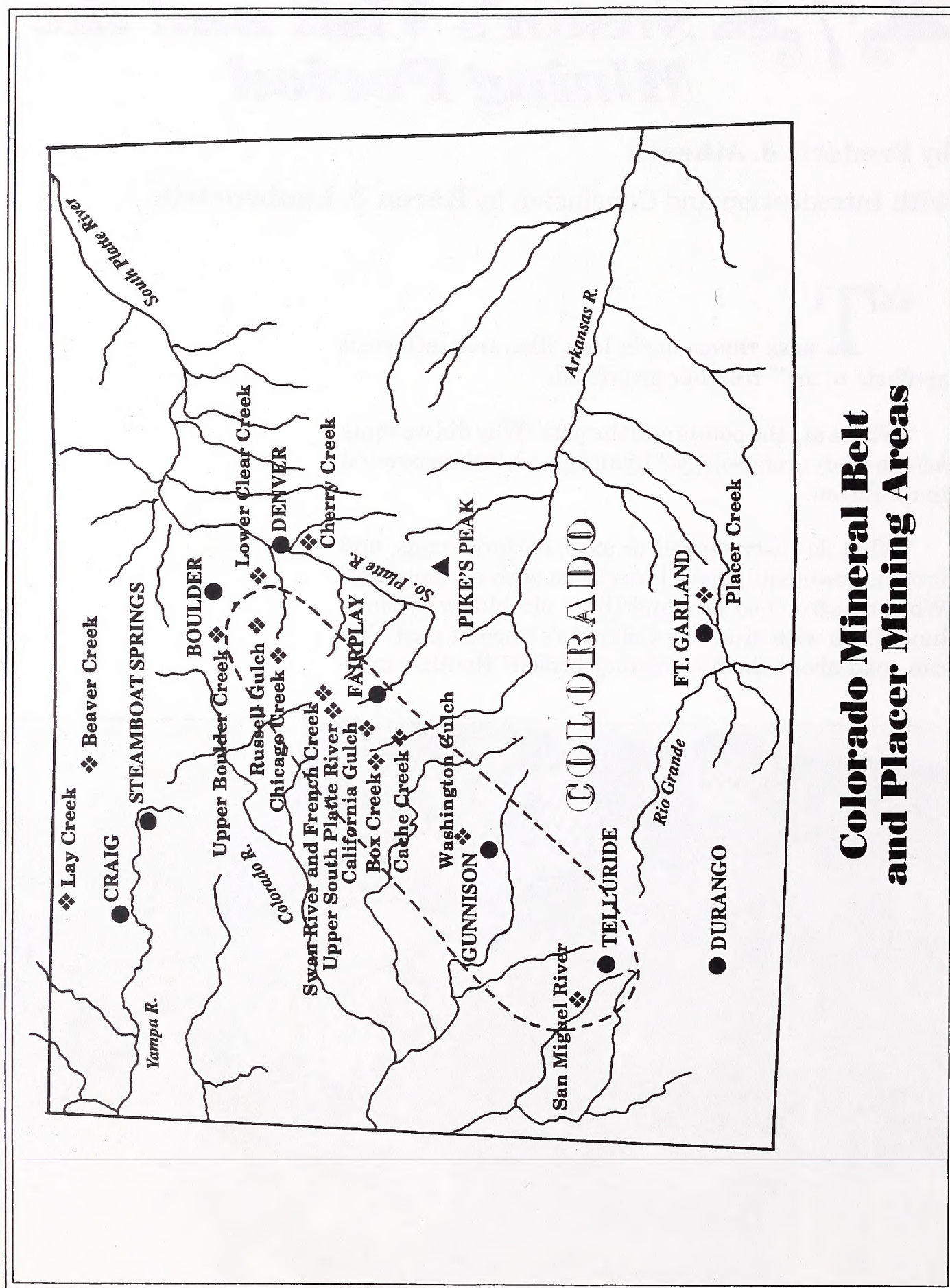
“THESE THINGS DON'T look like archaeological artifacts to me!” Heather grumbled.

“Where are the points and the pots? Why did we come *here* to study archaeology?” Ryan agreed, looking around in confusion.

“What do rusty shovels or axes, battered pans, and broken-down equipment have to do with archaeology? What do scratched jars and these old blurry pictures have to do with studying Colorado's ancient past? We can read about them in history books!” Heather mut-



A mineral prospector and his loyal friend near Estes Park and Grand Lake, Colorado, about 1922.



Colorado Mineral Belt and Placer Mining Areas

tered, as their class spread throughout the Colorado Historical Museum in Denver.

"It sounds to me like you've been learning about prehistoric archaeology," a woman said, joining them. She had beautiful white hair and wore a name tag with 'Susan' printed on it. "I suspect your teacher is beginning to cover Colorado's historical archaeology. Our things are very much historic artifacts. They are part of this state's culture and **heritage**, handed down by people who lived earlier."

"Historical archaeology?" Ryan echoed. "Why do we need archaeology when there are history books with all of the information?"

The woman chuckled. "I'm a historical archaeologist, although I volunteer here since my retirement. Archaeology doesn't end with the beginning of written records! Historical archaeologists seek to reveal the past in ways written documents cannot. Sometimes archaeology helps prove what's written down, or fills in the blanks left out in written histories. Instead of using a person's point-of-view or opinion, we work with very real things. We make the artifacts tell us about the past. We also use our imaginations to take us where "no pen" has gone before!" She smiled.

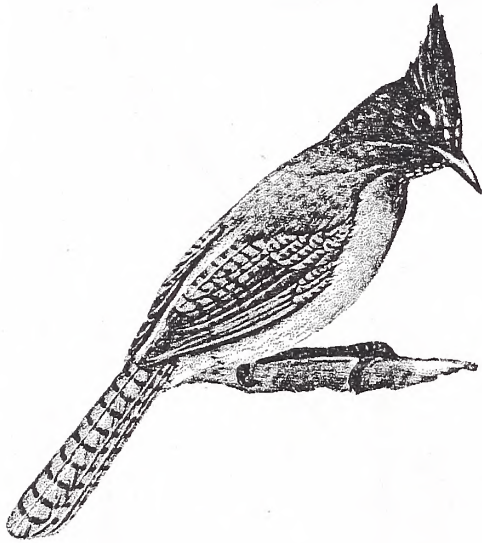
"So how can we use archaeology to teach us about MINING IN COLORADO?" Ryan wanted to know.

"Let me tell you a story," the woman suggested. "Come along, have a seat, and get comfortable, shall we?"



The year was 1930. Susan was visiting her great-aunt and uncle for the first time. Her parents had left for the gold mines at Cripple Creek for a meeting with the owners. Her father was an engineer.

"Go Backers!" Susan laughed merrily.



Steller's Jays

are commonly seen in Colorado mountain country.

George was delighted that his great-niece, Susan, was visiting. George had retired a few years ago from working in the Cresson mines. But now and then, he still went to the mines to work a bit. They sat at a round wooden table outside his cabin near VICTOR. A stream rushed by them in the background. Blue and dark gray-black STELLER'S JAYS jumped from branch to branch in the aspens. The colorful, crested birds watched for any tidbits that might come their way.

While they talked about mining, they sipped a cool drink. Susan could see several tools used for mining through the open door of the shed by the cabin.

"Yep, 'Go Backers' was what we called all those folks who left because there was no gold," George told Susan. "The 'Go Backers' weren't liked very much, because they didn't work to make a community or care about the place. They just wanted gold."

Susan sighed happily and got more comfortable in the big log chair.

"The main reason people first came to Colorado was gold, right, Uncle George?" she prompted. Though George was her great-uncle, she called him, "Uncle."

"Yep," George replied. "At first, it was gold. Then later it was silver and other minerals, and then gold again. The grip of gold or silver fever was more than just craving riches and wealth. For many, it was the game of discovery. A miner never knew when he might see a glint of bright metal in a stream or remote hillside. Gold or silver could be anywhere!"

"Was this after the California gold rush?" Susan asked.

"Yes, just after California and the 'forty-niners'," George nodded. "The town of Denver began in the fall of 1858, with only about 20 cabins. Denver and all of Colorado were still part of Kansas Territory. That changed really fast! By 1859, 100,000 settlers had rushed to PIKE'S PEAK and the Denver area. Some of them got lost, or died of thirst, hunger, or disease on their way West. They discarded mining tools, broken

wagons, bodies of oxen or horses. Sometimes, wooden tombstones marked the Great Plains routes to the West. Many called Pike's Peak, 'the Gold Hill.' Eastern newspaper headlines were screaming about 'The New Eldorado—Gold in Kansas Territory!' Some headlines were real misleading, like 'Gold is found everywhere you stick your shovel.' ”

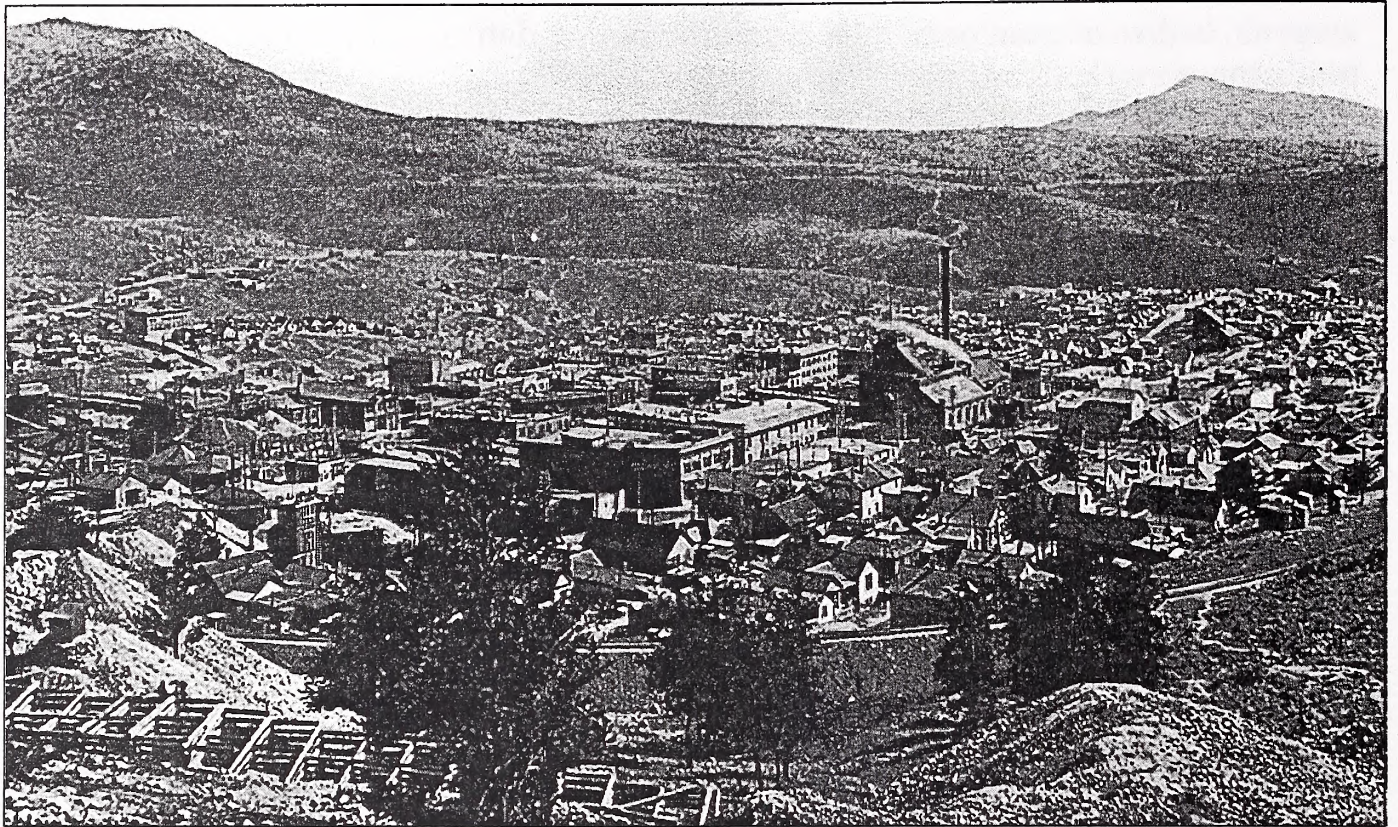
“Were you living in Denver then?” Susan wondered.

“No, I came to Colorado in 1861 with my father, when I was just a kid and still wet behind the ears,” George chuckled. “Though it didn't become a state for fifteen more years, the U.S. government recognized Colorado as a territory of its own that year, 1861. By then, the '59 gold rush was mostly over and the 'Go Backers' had gone, but other people like us followed.”

“One hundred *thousand* people, Uncle? That's a whole lot!” Susan exclaimed, mixing more sugar into her tea.



Pikes Peak at the edge of the Colorado Rockies was called “The Gold Hill” by eastern newspapers.



The mining town of Victor, Colorado, photographed from Squaw Mountain.



Miners drill in the interior of a mine in Victor, Colorado, one thousand feet underground, about 1930.

"Yessiree, Susie," George agreed. "Along the foothills, miners soon mined out the easy '**PLACER**' gold along the streams. We called placer gold, 'poor man's mines,' because they collected the gold from streams without expensive equipment. The word 'placer' comes from Spanish, meaning 'contented' or 'satisfied'—the feelings a miner experienced when he found placer gold. Sometimes, miners found yellowish or glittering minerals, such as fool's gold (pyrite) or mica."

"I wouldn't know how to tell the difference!" Susan announced.

"Yes you would," George said. "Real gold was unmistakable. It's soft in its pure 24-carat form. Gold is the only yellow metal that won't break when pounded, bent, or bit. Under pressure, it melds together. Pure gold looks the same from any angle, where pyrites or mica 'wink' when light strikes them. Silver's harder to find and usually needs to be tested before you know for sure."



Panning for gold in the Colorado Rocky Mountains.

“If they mined out the placer gold, did they all leave?” Susan wondered.

“The miners, or **PROSPECTORS**, moved westward into the Rocky Mountains,” George replied. “They began mining the hardrock, in what we called buried veins or ‘**LODE**’ **MINES**. Few prospectors knew about geology, but most quickly learned where they were likeliest to find gold.”

“So miners just looked for lodes?” Susan wondered.

“Well, most of the vein matter was worthless quartz or other rock, which miners called ‘gangue’,” George explained. “Inside gangue were precious metals. When weather or erosion exposed lodes, the gangue broke down into crumbling chunks, fragments, sand, and



“Placer” mine near Cripple Creek, Colorado, about 1900. Miners used water to “wash” the dirt which moved the lighter dirt particles away and left the heavier gold.



“Placer” mine at Leavenworth Gulch near Central City, Colorado, about 1900. Note the “sluicer,” or wooden trough for washing placer gold. The miners shovel soil into the sluice, where water runs steadily and washes lighter materials away. Gold and other heavy particles sink to the bottom. Cleats, or riffles, catch the gold. Some small, portable sluices rocked back and forth like a cradle to hasten the “washing” of the gold.

powder. It also released the gold, and then rain and mountain streams carried the gold downhill. Nuggets and large flakes traveled only a short distance, while light particles went farther.”

“That’s why placer gold was found in the streams along the foothills of mountains?” Susan guessed.

“Yes, and prospectors looked especially for certain places,” George said. “Places where the rivers suddenly widened and their currents slowed. Where gravel bars stick out from a bend in the stream. Where potholes, ridges, or any other obstacles exist in the streambed, they served as natural gold collectors. That’s near where the prospectors would set up their camps. Some of these camps became boom towns.”



Miners at the shaft or entrance of a “lode” mine in Clear Creek County, Colorado, about 1900.

“Weren’t many towns built because of the mines?” Susan asked.

“You’re right!” George nodded. “Many boom towns eventually faded into ghost towns. Several camps survived and grew into towns or cities, like Denver. Towns like Fairplay, Leadville, Silverton, Telluride, Silver Cliff, CRIPPLE CREEK, CLEAR CREEK, CENTRAL CITY, Blackhawk and many others became famous sources of gold and silver. In fact, Cripple Creek probably had the thickest concentration of gold ever located! Miners DRILLED more than 5,000 shafts during the first 20 years. About 475 mines, all located within an area of six miles, produced \$340 million worth of gold in only 25 years!”

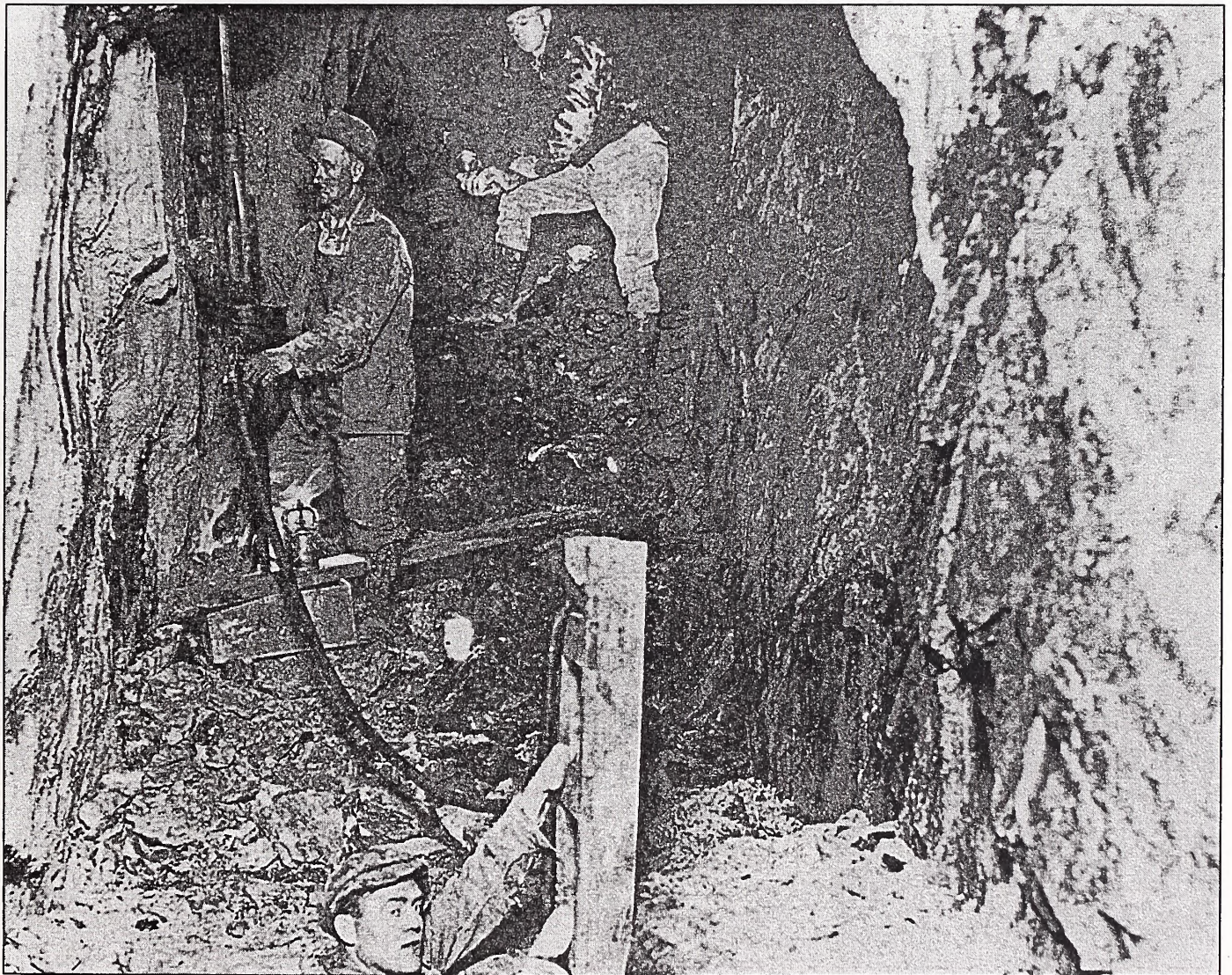
“That’s a lot of gold!” Susan agreed.

“Colorado was the biggest gold producer in the

United States before 1870."

"Uncle George, you're getting away from the story! You arrived at Denver, and then what happened? You were one of those hopeful prospectors, huh, Uncle George?" Susan asked.

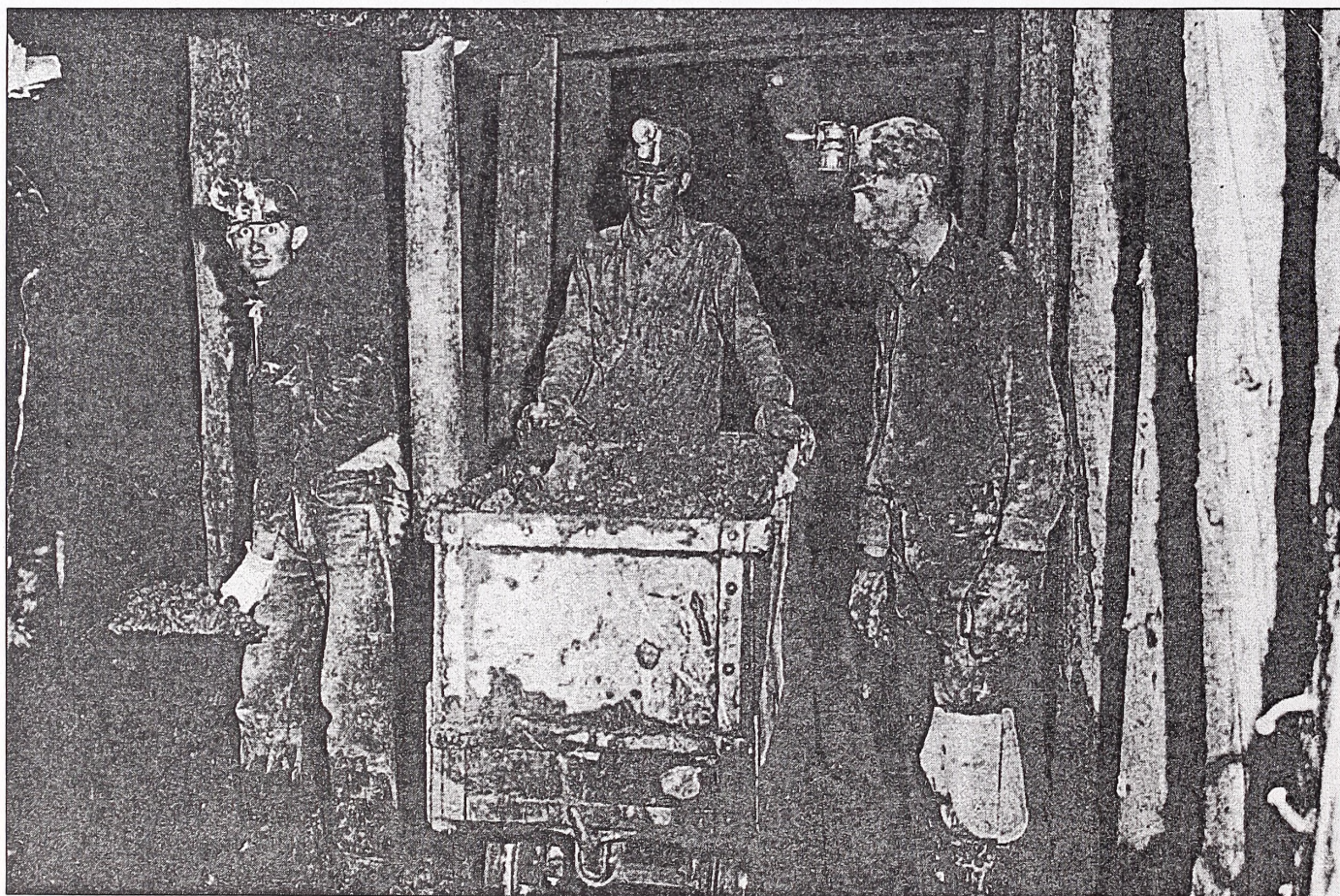
"Sure was!" George readily agreed. "Back then, we called inexperienced people mining for the first time, hopeful *greenhorns*. Most of the prospectors were greenhorns and learned, at great pain, how to survive living in the wilderness. In the spring of '61, Pop and I got to Fairplay over the old Kenosha Pass Road," George remembered. "There was a lot of snow up in those mountains around South Park. When it melted, the



Miner drilling in the interior of a "lode" mine tunnel near Idaho Springs, Colorado, about 1930. Note the "widow maker," a compressed-air drill used to make holes for dynamite in hard rock. Miners breathed in the fine dust created by early models of this drill. They often fell ill with a deadly lung disease called silicosis.



The mining town of Alma, near Fairplay, Colorado.



Miners working in a "lode" mine near Alma, Colorado, about 1930.

place became a mud hole.”

“Sounds like it was rough,” Susan agreed.

“Life really *was* rough,” Uncle George assured her. “Once a prospector arrived in a camp, his working outfit was simple. He usually had a good rifle, pick, shovel, gold pan, and food for two or three weeks. Beans, flapjacks, and sourdough bread were the miners’ main foods. Many had a mule or burro to carry the lot. The camp was a bunch of tents, log cabins, and only a few wooden buildings. Most of the miners’ camps and towns were rough and often lawless. Several hardware and general stores sold us mining supplies. There were plenty of saloons, but no churches or schools.”

“Figures! I think I would’ve liked no school or Sunday school,” Susan teased.

“You probably would’ve had lessons at home, but some didn’t have any book learning at all!” Uncle George retorted, pulling on her braid. “There were no ‘modern comforts.’ We had no plumbing or indoor toilets, electric lights, running water, refrigeration, or telephones. We got our water out of Michigan Creek. We had a single telegraph office. We worked 12 hours or more every day, and then came back to our tents and collapsed.”

“It must have been especially hard in the winter,” Susan guessed.

“Especially hard? I’ll say!” Uncle George nodded. “We got our heat from stoves. Before you could write a letter home, you first had to melt the ink on the stove!”

“So you and my great-grandfather went to Fairplay?” Susan prompted again.

“Yes, Fairplay was a shaky camp,” George said. “Many people didn’t think it would last. A bunch of us thought that nearby ALMA would be the big city. Soon after I got there, the new people set up a local government in the mining district. Pretty soon, they created Park County, with the county offices in Fairplay. That guaranteed the town’s success.”



Group photograph of miners, cooks, and foreman at a "lode" mine in San Juan County, Colorado.

"Uncle George," Susan asked curiously, "how many kids were in the Fairplay camp? What did they do for fun? Did they have any schooling?"

"I'm glad you asked that," said George. "Early on, no kids were in the camp, only men. The miners didn't bring their families from back East. Most felt life was just too rough in the West. The men planned to find their fortune and then go back home. What are you smiling about?"

"Now I know why there were no churches or schools!" Susan chuckled.

"Obviously, without any kids! Not all the miners found gold," George pointed out. "Some miners became business owners, or **merchants**. Others hired out as laborers for the MINERS. The big mining companies

hired workers and even COOKS, too."

"When did the children begin to arrive?" Susan wanted to know.

"Some citizens brought their families to Fairplay when it became more solid," Uncle George remembered. "Once the women and children arrived, the place started to settle down!"

"Yes, Uncle George! We'd definitely make it feel more like home," Susan joked.

"That's one way of looking at it," Uncle George replied. "Courts were set up, and taxes were collected. The place began to look pretty civilized. The women demanded a church and a school. We built a one-room schoolhouse for the kids. Then the men got together for a real church raising. At first, the preacher came around on horseback every month. Eventually, there were enough people in town to pay for a permanent minister."

"Where'd you find a teacher?" Susan wondered.

"They hired both the teacher and minister from Denver," Uncle George remembered. "By 1865, all of Fairplay's children were in school. By then the families attended church regularly. I had missed schooling back East and was thirteen by then. But my father had me going to classes for one year, to improve my reading. We'd been in Fairplay for four years by that time."

"Good for great-grandfather!" Susan said, wishing she could have met her dad's grandfather. "Sounds like a regular life all of a sudden," Susan observed. "First the families, then schools and churches . . ."

" . . . A little *too* regular," Uncle George admitted quickly. "Fairplay was getting too tame. Colorado even became the 38th State of the United States, on August 1, 1876! One day in 1879, I just packed my gear and headed over the mountains to California Gulch and Leadville. That's the area where that fellow H. A. W. TABOR made a million dollars, then later lost it all! Tabor backed, or grubstaked, \$17 for the two guys who found silver at Leadville. Grubstaking was a common



Horace Austin Warner Tabor “grubstaked” and struck it rich.

business arrangement in frontier towns. A backer supplied the miners with food and tools in return for a share—usually one half—of any strike the prospector made.”

“That sounds risky to me, grubstaking somebody. Did you do that?” Susan asked.

“Me? No. I never had enough money. Where was I? Oh, yes. The Leadville silver boom lasted until national

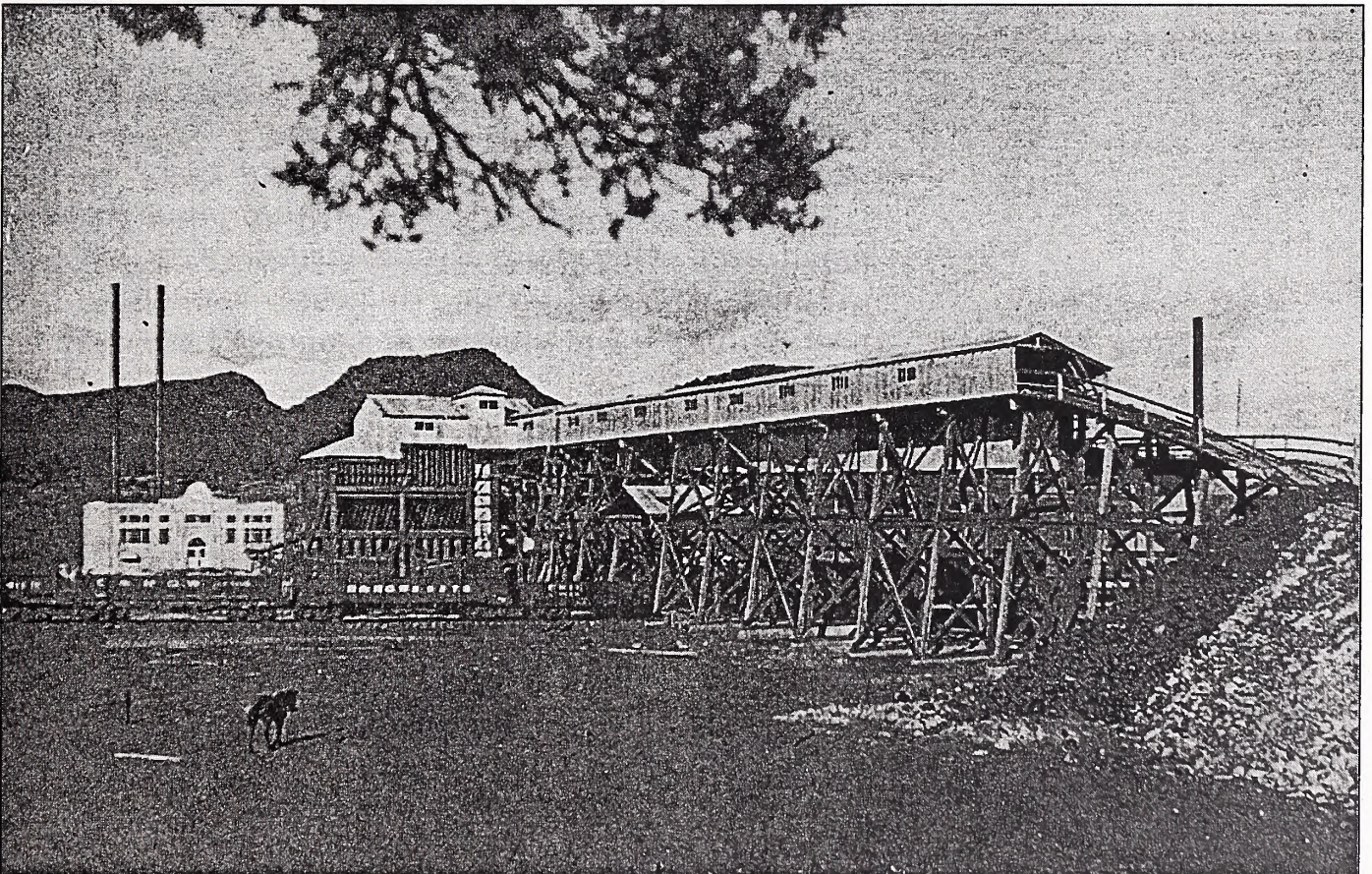
politics helped cause the big crash of 1893," George said. "Silver's value suddenly dropped because the government no longer paid as much for it. The Crash put most Colorado miners out of work. I moved on again after the Crash of 1893. I left Leadville and moved here, to VICTOR. That's when I got really lucky!"

"Did you strike it rich?" Susan asked, her eyes growing big.

"I surely did, in a manner of speaking! I finally met your great-aunt Nelly, and we married!" Uncle George chuckled. "And Nelly brought a string of good luck. That's just when one of the biggest gold rushes in the country happened. CRIPPLE CREEK!"

Susan noticed he whispered 'Cripple Creek' like it was a magic word.

"Yes?" she prompted, when George became quiet and lost in his memories.



Alamo Coal Company mine near Walsenburg, Colorado.

"In 1893, a drifter called 'Crazy Bob' picked up a dull gray rock. The rock was about nine inches long, three inches wide, and unusually light. He sent it to Denver for testing, and it proved to be rich with gold. This was at a ranch on Cripple Creek, so-called because stray cattle sometimes became crippled in the boulder-strewn stream. The Cripple Creek Gold Strike brought 10,000 miners and prospectors here to Teller County. By 1900, Cripple Creek was a town of 25,000 and its mines yielded \$18 million in gold! Even Crazy Bob's mine earned him about \$3 million."

"Crazy Bob didn't do so bad!" Susan observed.

"A Cripple Creek paper reported the town had 41 assay offices, 91 lawyers, 46 brokerage houses, 88 doctors and dentists, 14 newspapers, 70 saloons, and one coroner who 'was usually very busy'," George laughed. "In 1906, two major fires over three days wiped out the whole town of Cripple Creek. But we rebuilt it, this time with brick and stone instead of wood."

"Well," said Susan, "Crazy Bob sounds lucky! What did you do when the Cripple Creek rush stopped?"

"I just settled down. Work was steady in Cripple Creek and we had kids to raise. But I always had a hankering to move on to the next big rush," replied George. "There's always gold and other minerals to be found, even today. Some of those include COAL, oil, gas, uranium, zinc, tellurium, tungsten, vanadium, and lead. Mining made up most of Colorado's economy for many years."

"Some day I know I'll hit the mother lode. Then I can retire," said George, as he leaned back in his chair, lost in his memories. Looking down the valley, remembering the booming gold town of Victor, he smiled.



"I never knew all that about mining!" Heather said,

as they stood and stretched after the long story. "Can I see that gold pan?"

The woman handed it to her, appearing amused. More students had found them during the story, and now were examining the mining artifacts with great interest.

"In many ways, if it wasn't for the miners and prospectors, Colorado might not have become a state!" Ryan marveled. "I wonder if George once used this gold pan?"

"It's possible! Historical archaeologists help to learn more about long forgotten mining camps and sites," the woman pointed out. "We find artifacts and sometimes discover the truth behind the mining tall tales. Sometimes we even find historic sites that developers or construction workers don't know are there! In those ways, we help save that little piece of Colorado's history."

"That's great!" Heather said. "I'd like to learn more."

The woman beckoned. "Good! Let's check out some other Colorado pioneers. Come!" ♦

A Guide to Miner's Lingo

black diamonds—coal.

bonanza—discovery of an exceptionally rich vein of gold or silver.

claim—a parcel of land in a mineral field that a person can mine legally because he had staked it out and recorded his title.

claim jumping—stealing someone else's mining property, usually after the miner had staked it out, but before officially recording the claim.

colors—the pieces of gold in a prospector's pan after washing.

cross-cut—a mine tunnel crossing an ore vein. Sometimes used for ventilation or communication between work areas. Opposite is a "Drift."

drift—a mine tunnel following the direction, or "drift" of a vein. Opposite is a "Cross-Cut."

gallows frame—wooden or steel scaffold on top of a mine shaft supporting the hoisting rope.

go-backers—miners who came to the West only to get rich, and left immediately after finding minerals or when a strike was ending. Go-backers usually had no interest in the land or future of the area.

greenhorn—inexperienced prospector.

grubstaking—supplying a prospector with food and gear in return for a share of his findings.

hard rock—ore removed only by blasting, rather than hand tools.

lode—a mineral vein rich with ore. The main vein is the "Mother Lode."

mine—An underground excavation to search for and extract mineral deposits or building stone. The term also includes some types of open-pit workings.

muck—debris or material left after blasting hard rock. Muckers were miners who shoveled the ore-bearing debris into a car or chute.

ore—a mineral or rock that is mined for the metal or other substance it contains.

quarry—surface digs for rocks or minerals; *verb*: to dig for rocks.

quicksilver—“cinnabar” or mercury used to help identify silver and gold.

salting—planting rich ore samples in an unprofitable mine to cheat buyers.

shaft—a hole dug either straight down, or sloping. Usually serves as a mine's main entrance and hoistway leading to the mine's tunnels.

sluice—also “rockers”—a wooden trough for washing placer gold. Miners shoveled soil into the sluice, where water ran steadily and washed lighter materials away. Gold and other heavy particles sank to the bottom. Cleats, or riffles, caught the gold. Some small, portable sluices rocked back and forth like a cradle to hasten the “washing” of the gold.

sourdough—an experienced prospector. The name came when experienced miners always saved some fermenting dough to use later to make sourdough bread or flatcakes. Opposite of greenhorn.

placer—deposit of sand, dirt, or clay in a stream bed containing fine particles of gold or silver. Miners could mine placer gold by washing the dirt.

stamp mill—a device powered by water or steam that pounded ore into a fine powder under heavy iron stamps, rising and falling like hammers.

washing—a process using water to “wash” the dirt, moving the lighter particles and leaving the heavier gold.

widow-maker—a compressed-air drill used to make holes for dynamite in hard rock. Miners breathing in the fine dust created by early models of this drill often fell ill with a deadly lung disease called silicosis.

Mining Summary

What do mining sites look like?

Mining sites are often easy to spot in Colorado's mountains. Usually the tailings that have been dumped from the mine spill down the mountain. They sometimes look like big pieces of rusty, jagged gravel upon which nothing is growing. If the tailings were dumped into or near a stream they will often look like a dried up, rusty pond. If the mining was more recent the nearby trees will be small since all the trees were cut for timbers in the mines. A hole in the mountain shows the entrance to the mine. There may even be a few weathered mine buildings standing at a tipsy angle. The Alpine Loop near Lake City and Silverton is a good place to see the mining structures.

Dredging operations changed the landscape a great deal. The river is often twenty or thirty feet deeper than the surrounding meadow lands and the banks look very gravelly. Watch for evidence of dredging along the Arkansas River south of Buena Vista.

What kinds of artifacts are found there?

There are many old mining camp sites in Colorado. They are abandoned towns so there are many interesting artifacts. Old foundations are the only traces of buildings left in the high, windy locations of mining camps. There will be bits of broken pottery and glass, rusty nails, old tin cans, and rusty tools.

Is collecting things from old mining sites OK?

Sometimes people think that because these things are historic, that they can be collected from the sites. However, historic sites are just as important as prehistoric sites. It is illegal to collect anything from any site on public lands. It is also illegal to collect anything from private land that isn't your own.

Are mining sites dangerous?

Be careful around mines! The entrances should be sealed by a gate, but sometimes they aren't. Very often the mine's entrance makes it look like it would be easy to walk back into the mine. This can be misleading. A vertical shaft going down hundreds of feet is often only a few feet from the entrance. Also, newer mines often had a way of circulating air. If the mine is abandoned the air may be poisonous. An unwary visitor could lose consciousness and die!

Word List Chapter 7

heritage—something handed down from earlier generations to later generations; a tradition.

lode mining—mining a vein of mineral ore that is deposited between clearly marked layers.

merchant—a person who runs a sales business; a shopkeeper.

placer—a deposit of sand, dirt, gravel, or clay containing fine bits of valuable minerals. Miners could mine placer gold by washing the gravel.

placer mining—obtaining minerals from placers, or gravelly deposits, by washing or dredging.

prospector—a person who explores an area for mineral deposits or oil.



Iron Horses: The Colorado Railroads

by **Frederic J. Athearn**

with Introduction and Conclusion by **Karen J. Laubenstein**

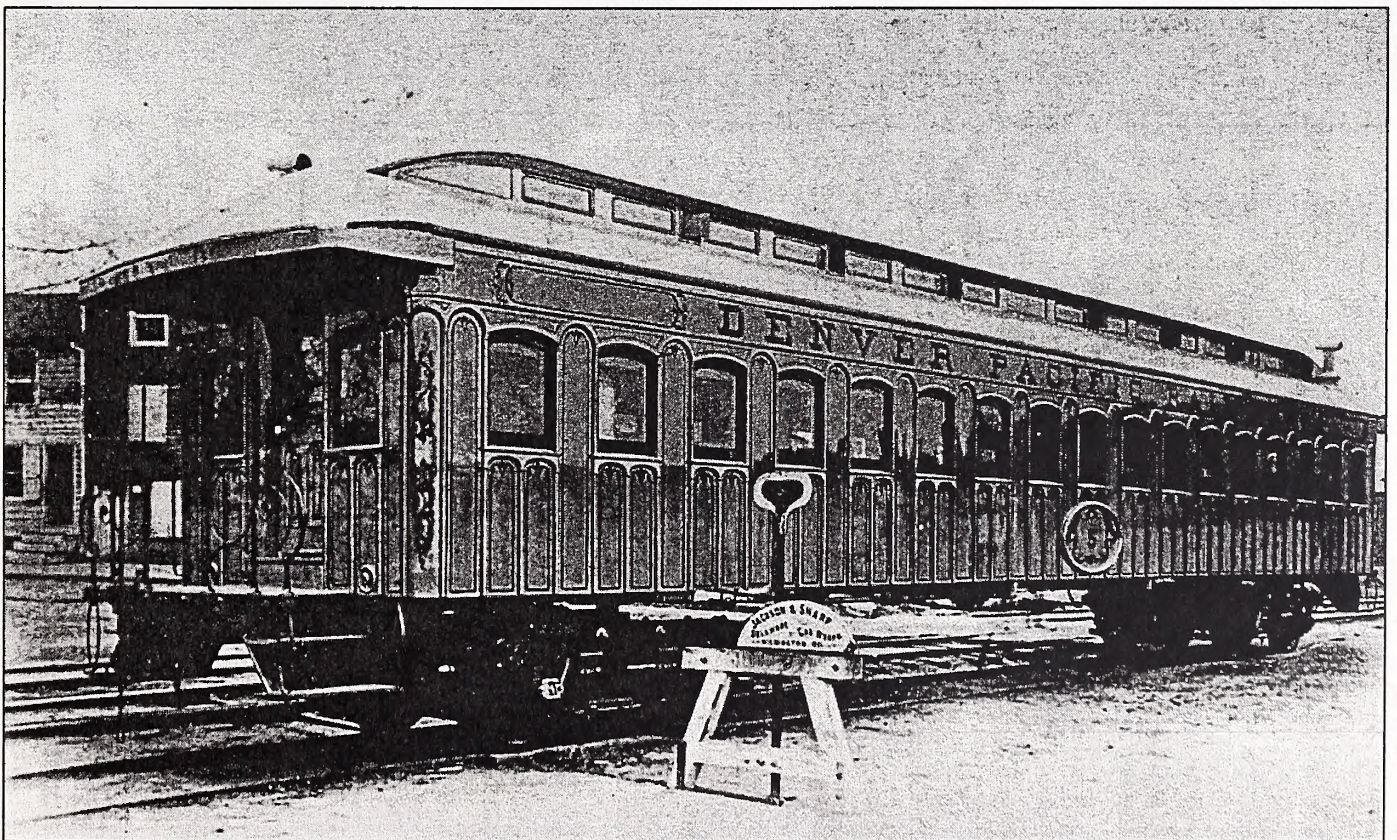
“WHAT’S THIS BIG NAIL?” Ryan asked, as they explored another area of Colorado History Museum.

“That’s not a nail, that’s an iron railroad SPIKE!” Heather pointed out. “They used it to nail the iron rail to the wooden ties. They used a silver spike for the last spike joining the first railroad line from Denver to the transcontinental railroad in Cheyenne in 1870. It was called the DENVER PACIFIC.”

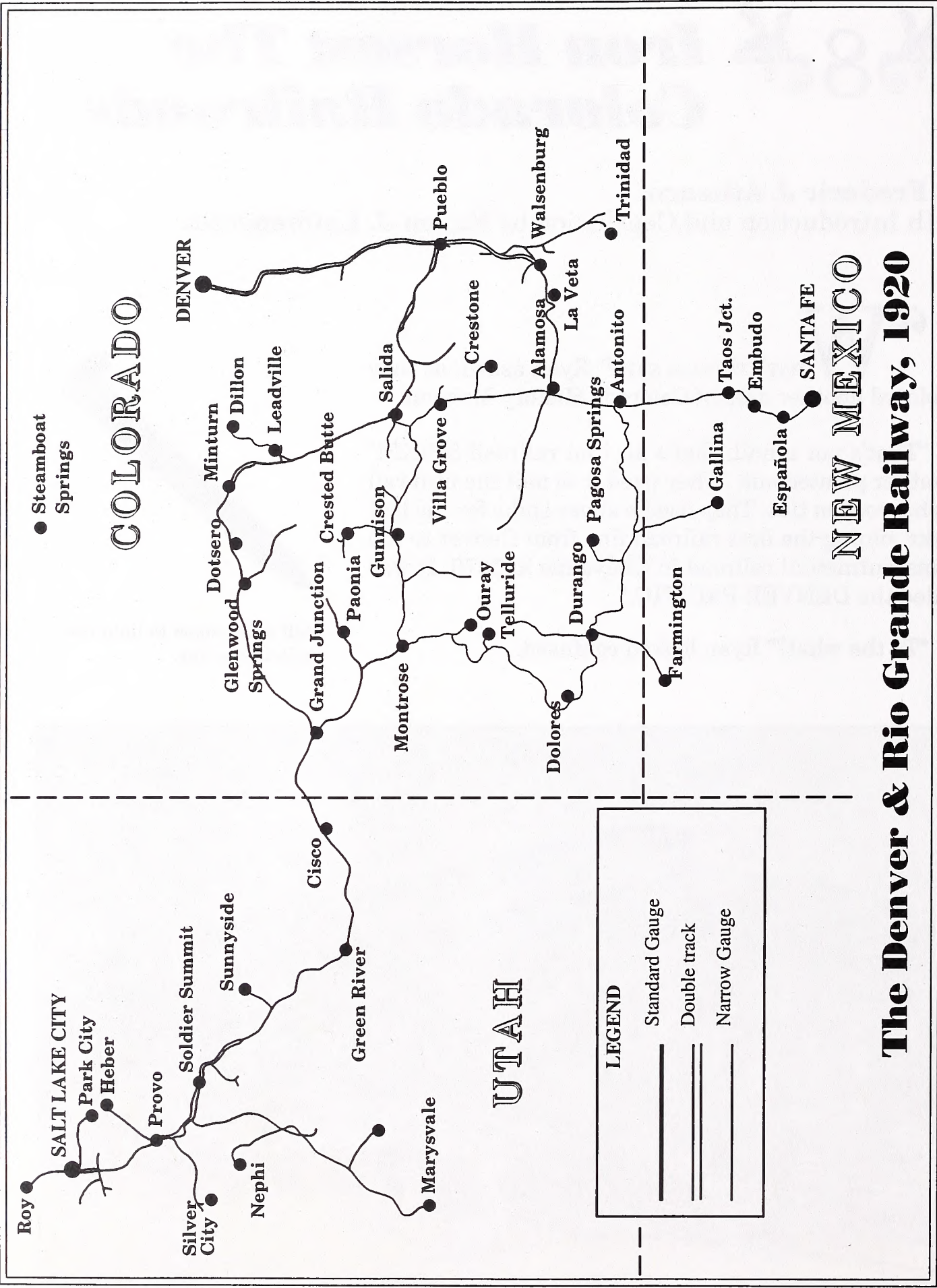
“To the what?” Ryan looked confused.



Rail spike—used to hold the rails to the ties.



A Denver Pacific passenger car waits on a siding, about 1900.





Denver & Rio Grande steam locomotive No. 473 gets ready for a run out of Durango, Colorado, about 1920. It is on a big turntable that will turn it and its coal car, or tender, around.

“Railroad ties! The long heavy pieces of wood that the rails sit on. Look, over here!” Heather beckoned, standing before some old pictures of rough-looking men grouped in front of a railroad. She showed Ryan what rails and ties were.

“How do you know so much about it?” Ryan challenged her.

“Well, I met Antonio,” Heather smiled. “He’s a railroad man.”

“Antonio?” Ryan looked as confused as ever.

“We just learned how mining helped Colorado



Travel by stagecoach in the mountains of Colorado was difficult and dangerous. Illustration from "Marvels of the West," 1889.

develop into a state. But you can't study about Colorado without knowing about the railroads. Last summer, I was visiting Trinidad and my cousin Suzanne, when I met Antonio. Let me tell you about Antonio," Heather suggested.



It was a hot, boring Saturday in Trinidad, until we found Antonio on his front porch. He was sitting there with us, the local kids, talking about the railroad. We

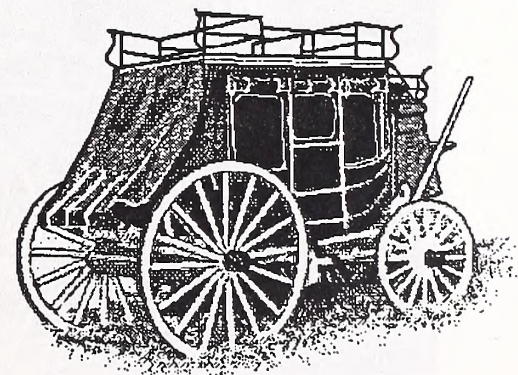


Stages prepare for the run from Dolores to Rico, Colorado, about 1878. Photograph by William Henry Jackson. Before the advent of railroads in Colorado, transportation was by stage coach.

knew the elderly man used to work for it.

We were really interested in what Antonio had to say. We'd been looking around City Hall Park and the railroad display. There was a **steam locomotive**, a rail coach, and a caboose. Some of us had never ridden on a train before. He told us that a steam locomotive is a railroad vehicle that contains a steam engine that moves it.

Antonio had already told us that railroads were very important to Colorado. Before the railroads, according to Antonio, wagons and STAGECOACHES, pulled by horses, mules, or oxen, did all the hauling. Wagons and stagecoaches were slow and expensive. It took many days or even weeks or months to haul anything for long distances.



Stagecoaches carried passengers and hauled goods.

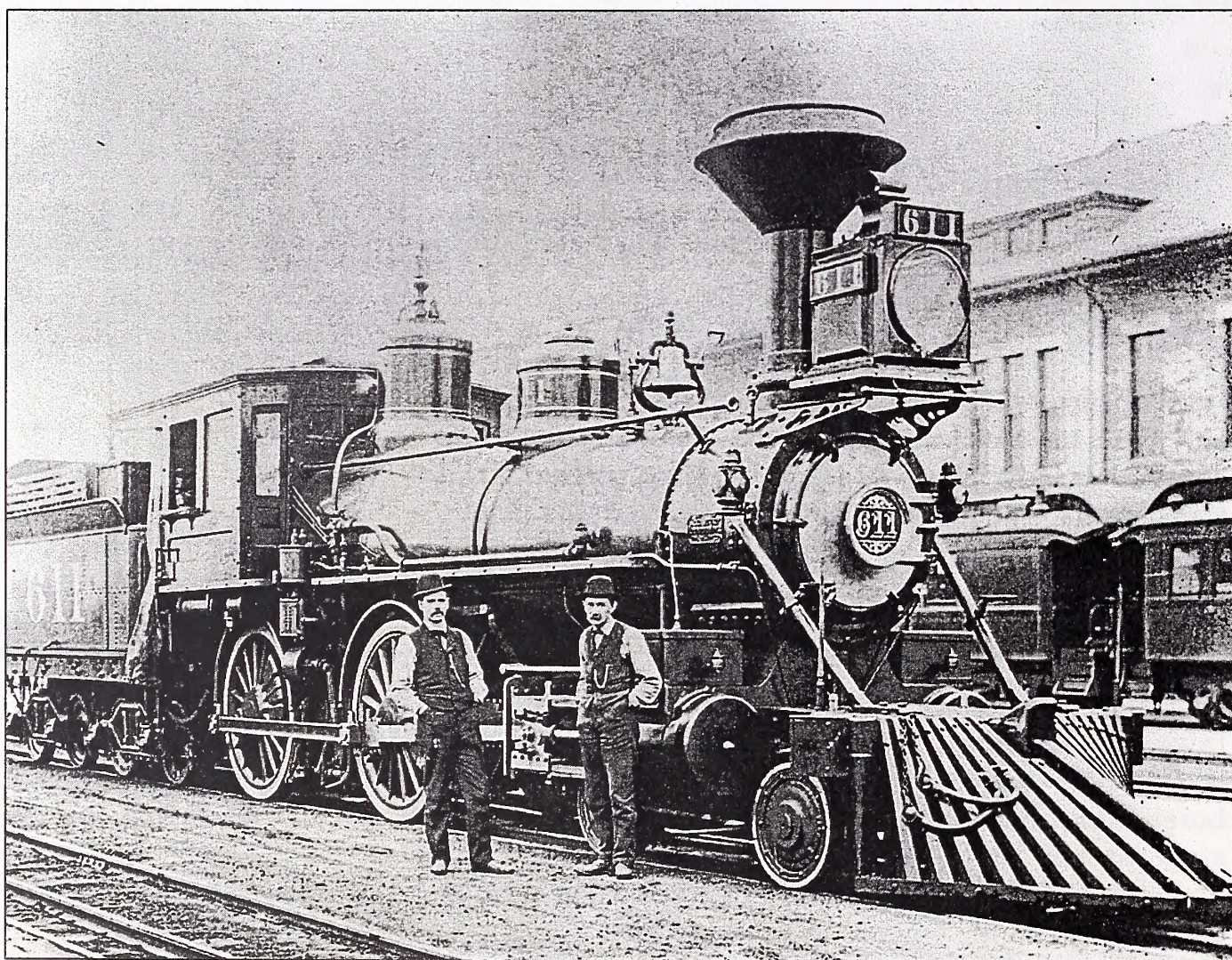
“The horse and mule changed how everyone in

America got around,” Antonio said. “Although the frontier people tried burros, dogs, and even camels as pack animals, nothing worked like the horse and mule. That is, until the ‘iron horse!’”

“Iron horse!” Billy echoed.

“The railroad!” we shouted, laughing at the slow grin that spread over Antonio’s face.

“Bet you didn’t know the first Colorado railroad was the Denver Pacific?” Antonio said, chewing on a toothpick. “The Denver Pacific Railroad connected Denver with the UNION PACIFIC RAILROAD at Cheyenne, Wyoming. Without that connection to the new transcontinental railroad, Denver might have become a ghost town! Two lines were hoped for—one from Cheyenne



Union Pacific locomotive No. 611 in Denver, Colorado about 1900.



William Jackson Palmer, about 1890. Palmer built the Denver & Rio Grande Railroad.

and one from Kansas City.”

“Who built the Denver Pacific?” I asked curiously. “You said that was the first railroad in Colorado, right?”

“A group of Denver leaders, including Governor John Evans, got citizens to contribute anything they could. Some gave cash; others pledged their work. They and the railroads got Congress to give land grants to both railroads. The railroads could then sell the land to finance building the railroad. In 1870, both the Denver Pacific and Kansas Pacific engines steamed into Denver powered by their steam locomotives.”

Specialized Railroad Lingo

- **brakeman**—a person who operates, inspects, or repairs brakes, especially a railroad employee who assists the conductor and checks on the operation of a train's brakes. Until the invention of air brakes, the brakeman set the brakes by hand. It was the most dangerous job on the railroad crew. He moved along the catwalk on top of the moving train and set each brake before a stop. He also attached or disconnected the railcars using a link and pin device. If he slipped, the railcars could crush him to death. Safety couplers helped brakemen stand safely to one side when the cars crashed together.
- **caboose**—a small railway car at the end of the train where the train crew slept and “lived” while riding the rails. It was the last car on a freight train, with a kitchen and sleeping facilities for the train crew.
- **conductor**—railman who collects fares or tickets and helps passengers.
- **engineer**—the driver of the train.
- **locomotive**—train engine that moves on its own power. A self-propelled vehicle, usually STEAM, electric or diesel-powered, for pulling or pushing freight or passenger cars on railroad tracks.
- **narrow and standard gauge**—a gauge for measuring the distance between two rails on a railroad track. Standard gauge means the rails were four feet, eight and one-half inches apart. Narrow gauge had rails three feet apart.
- **Pullman Sleeper or Silver Palace Cars**—luxury railway cars; a parlor car or sleeping car. Also called Pullman car.

- **rails or iron T-rail**—long metal bars or railroad tracks. The T-shaped track became the standard for rails around the world. Some rails were made of wood.
- **spikes**—large, heavy iron nails. Spikes held the rails to the ties. Spikers were workers who used sledgehammers to pound the spikes.
- **spurs**—dead-end railroad lines usually for parking unused railway cars. Some spurs led to a mine or warehouse for loading freight on a railcar.
- **spur track**—a short side track that connects with the main track of a railroad system.
- **steam engine**—engines that used a boiler built into their body to produce steam power that is used to drive the train.
- **trestles**—railroad bridges
- **whistlestops**—places along the railroad where a train would stop when flagged down or alerted by telegraph in advance. They were not regularly scheduled stops. The engineer usually blew the train whistle before a stop.



Railroad laborers pose on a hand car, about 1890. African American and Chinese laborers helped to build the railroads across the American west. Note the wooden ties under the rails.

“Were there other railroads, Antonio?” a boy named Pedro asked.

“There sure were, Pedro. GENERAL WILLIAM JACKSON PALMER built Colorado’s first ‘narrow gauge’ railroad, back in 1872,” Antonio replied. “That first train ran from Denver to Colorado Springs. In fact, Palmer started Colorado Springs. He set it up as a fashionable summer resort. Palmer’s company lasted a long time. It was the Denver and Rio Grande Railroad.”

“I bet if you were a town on a railroad, then your chances of surviving were greater,” I said. “Were there railroad boom towns like the mining boom towns?”

“Sure there were!” Antonio agreed. “Places with train depots (stations) or **whistle-stops** boomed. Every town wanted to be on a railroad!” (See photo p. 8-22.)

“Whistle-stop?” Suzanne repeated curiously.

"Whistle-stops were places along the railroad where a train would stop when someone flagged it down or had alerted it by telegraph in advance," chuckled Antonio. "They were not regularly scheduled stops. The engineer usually blew the train whistle before a stop."

"Were there more railroads built in Colorado after General Palmer's?" Billy asked.

"Oh yes. General Palmer continued building the Rio Grande. The Atchison, Topeka and Santa Fe built a big line through Trinidad." Antonio replied. "Within 20 years there were rails like a web of steel branching out from Denver to all over Colorado. You could take a train to almost anywhere in the state. At one time, 65,000 steam locomotives thundered and screeched across America! Once built, railroads were the most important kind of haulers for the next fifty years."

"I like horses," Suzanne said, "but I'm glad they didn't have to do all of the hauling any more."

"That's right," Antonio agreed. "The railroads carried people, goods, minerals—almost anything. But horses and wagons were used on all the other roads. Until automobiles, motor trucks, and airplanes came along, railroads were the fastest and sometimes only way to get around!"

"Antonio?" asked Billy, "I heard that CHINESE laborers built the railroads around here. Is that true?"

"Billy," replied the old man, "you heard wrong. The Chinese helped build the Central Pacific Railroad, that led east through Salt Lake City from Sacramento. At one point, I believe there were 10,000 or more people working to build that railroad. That line didn't go through Colorado. In Colorado, there were a few Chinese workers. Italians, Slovaks, and Eastern European folks built most of the railroads here."

"Was it dangerous to build a railroad?" Billy asked.

"In the early days, some companies used brute force to get land or protect their railroads," Antonio admitted. "They armed their track-laying crews. A near gun battle

broke out once between two railroads trying to get their routes to Santa Fe, New Mexico. THE ATCHISON, TOPEKA, & SANTA FE RAILROAD beat out the Denver & Rio Grande, but almost did it under gun fire!"

"How did these workers build the railroads back then?" Suzanne asked. "I know they had no bulldozers or graders or construction equipment, like we would use today."

"First, they leveled the railbeds. The grading crews used picks, shovels, plows, and scrapers drawn by horses, mules, or oxen," Antonio explained. "Once they had the railbed prepared, they dropped the ties. It took five ties for each length of iron rail. The 'ironmen' took over from the grading crews. Five 'ironmen' pulled each 700-pound rail from the wagon and dropped it onto the ties."

"Wow! Rails were heavy!" Pedro exclaimed.

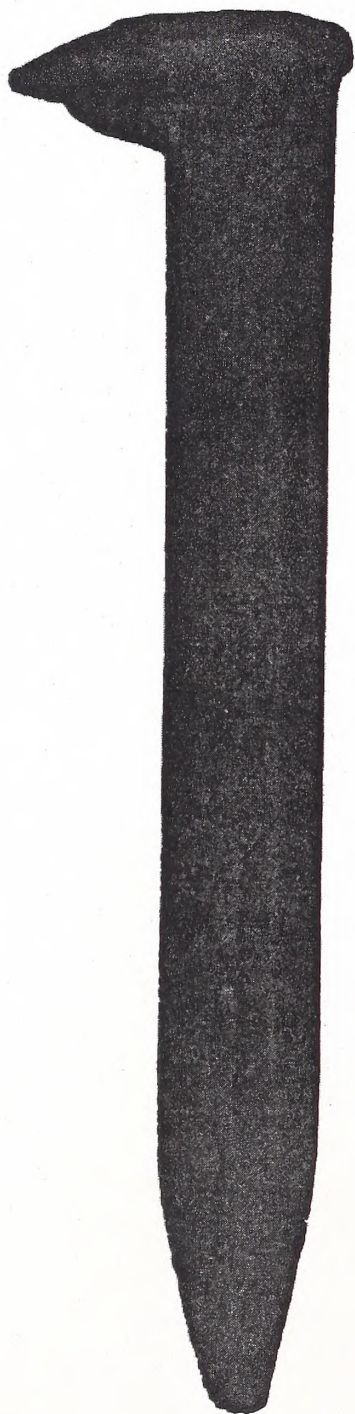
"Very heavy. Once the ironmen dropped the rails on the ties," Antonio continued, "the 'spikers' and 'clampers' fastened them into place. It usually took only about 30 seconds to fasten each pair of rails. They were so fast, they did two rail lengths a minute! A 'spiker' struck three blows to each SPIKE, using a sledgehammer."

"Okay, if we have five ties for each rail," Suzanne said, figuring in the dirt using a stick. "Then it took ten spikes for each rail, one on each side. Now to figure how many rails in a mile!"

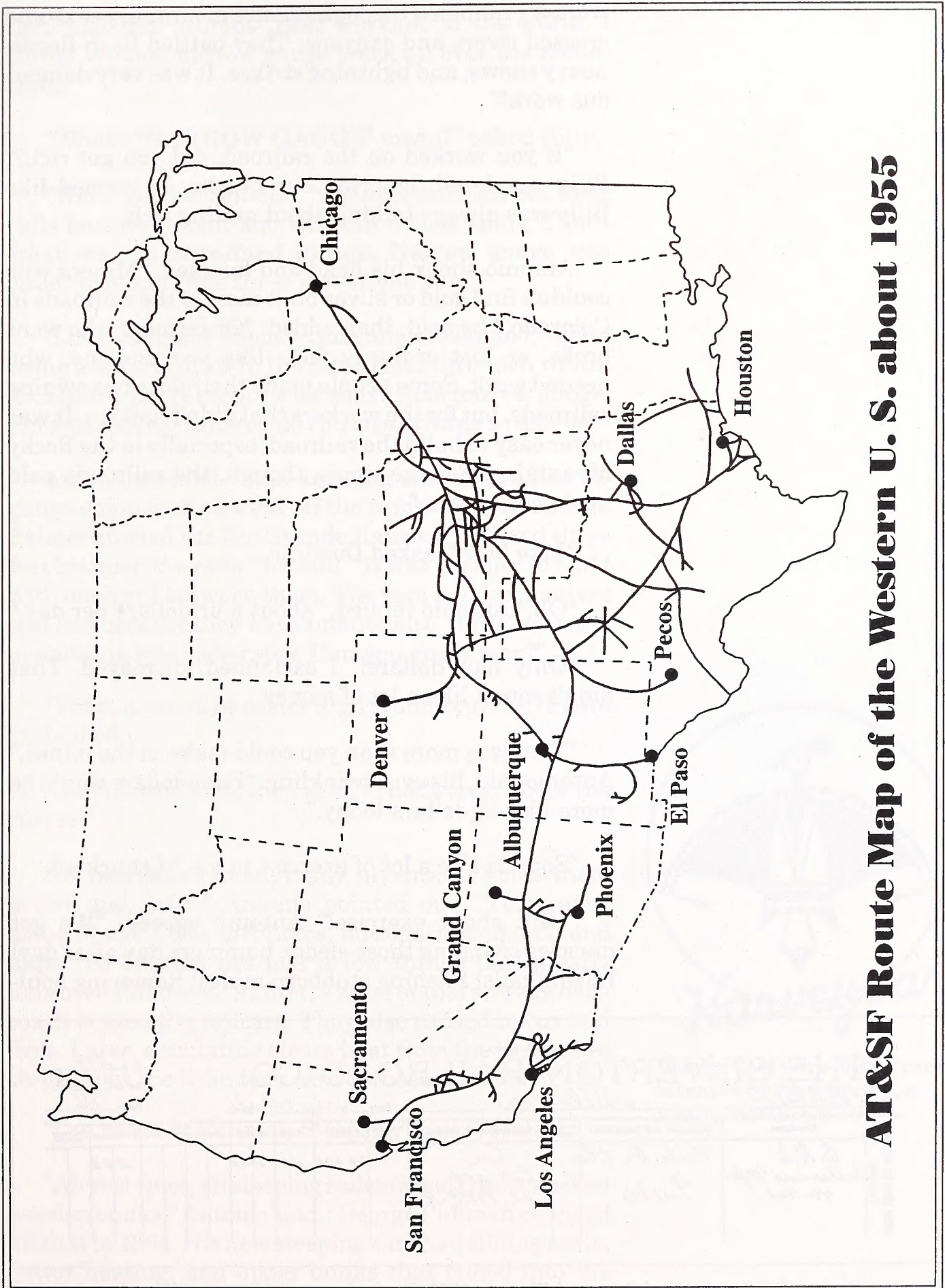
"Four hundred rails in one mile," Antonio answered, grinning. "How many spikes or sledgehammer blows would you guess that would be, in a mile?"

Suzanne scribbled rapidly. "I've got it! That's 4,000 spikes and 12,000 sledgehammer blows for each mile of railroad!" she said, showing us her numbers.

"Say, you're pretty good in math," Antonio praised. "We always laid at least one mile of track a day! Some days, we averaged about five miles. Other crews built the tunnels, bridges or trestles, depots, and other structures. Sometimes, they had to blast through mountains with dynamite. The rail beds climbed mountains. The



Rail spike shown actual size.



AT&SF Route Map of the Western U. S. about 1955

workers tunneled through granite mountain peaks and crossed rivers and canyons. They battled flash floods, heavy snows, and lightning strikes. It was very dangerous work!"

"If you worked on the railroad, did you get rich?" Billy wondered, ignoring our laughs. It seemed like Billy was always talking about getting rich.

Antonio shook his head and laughed. "Miners who couldn't find gold or silver built most of the railroads in Colorado," he said, then added: "Or farmers who went broke, or just ordinary folks like you and me, who needed work. Some people made their fortunes owning railroads, but for the workers that didn't happen. It was never easy to build the railroad, especially in the Rocky Mountains. For the times, though, the railroads paid 'real good' wages."

"Like how?" asked Dominic.

"Oh," Antonio replied, "about four dollars per day."

"Only four dollars!" I exclaimed, dismayed. That didn't sound like a lot of money.

"That was more than you could make in the mines," Antonio said, his eyes twinkling. "Four dollars would be more like 40 dollars today."

"Sounds like a lot of exercise to me," I chuckled.

"Talk about exercise!" Antonio agreed, "We got muscles swinging those sledge hammers day after day! Lifting rails! Pushing stubborn mules! Removing boulders!"

LOCAL WAY-BILL.												
THE SILVERTON RAILROAD CO.												
From <u>Stobie</u>		to <u>Silverton</u>		Date <u>July 1st 1896</u>		W-B. <u>412</u> Car No. <u>4653</u> Owner <u>PK</u>						
Consignor	Consignee and Destination	No. of Pkgs.	Description of Articles	Net Weight	Weight	Rate	Freight	Charges	Prepaid	To Collect	PREPAID BEYOND	
C. L. L. Sullivan's Mfg 70-114	Phila. by J. Co. Pueblo		One lot 1084 val. 700.00		50 000	40	200				200	

Silverton Railroad Company freight way-bill, July 1896. It was a narrow gauge railroad.

ders and tree stumps! Best workout in the world, I think! We laid narrow gauge track all over the mountains."

"What's '**NARROW GAUGE**' mean?" asked Billy.

"Well," replied Antonio, "regular railroads put their rails four feet, eight and one-half inches apart. That's what we call **standard gauge**. Narrow gauge was closer together, like three feet or one yard."

"Let's compare them!" Suzanne exclaimed, again using a stick to draw in the dirt to measure each width. "Standard gauge seems a lot wider than narrow gauge. I'm amazed big trains could run on anything so narrow."

Antonio nodded. "It is amazing and in fact narrow gauge engines often went off the tracks. When General Palmer started the Rio Grande Railroad, he used three feet between the rails," he said. "It was cheaper to build with one yard between them. The cars and locomotives cost less because they were smaller also. Building in the mountains was easier, too. Can you guess why?"

"Yeah, it would be easier to go around curves!" Pedro exclaimed.

Antonio chuckled, then said, "That's true, about the curves."

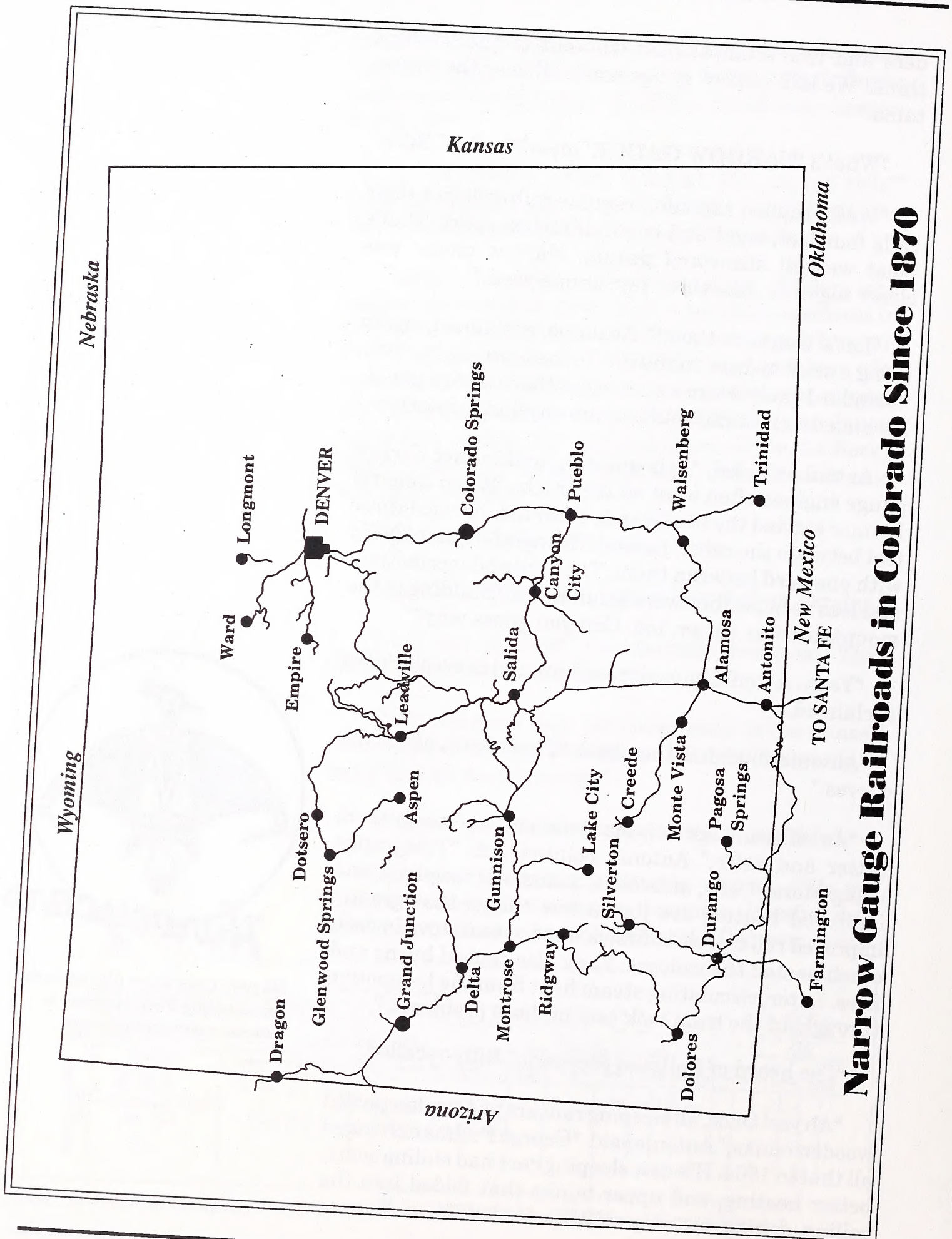
"As railroads spread, many inventions made them better and safer," Antonio pointed out. "Telegraphs using Morse Code, airbrakes, automatic couplers, and improved heating are just a few things that greatly improved rail travel. At first, a wood or coal stove in each coach heated the railcars. They also caused burns and fires. Later, circulating steam heat from the locomotive throughout the train took care of those problems."

"I've heard of Pullman Sleepers," Billy recalled.

"Ah yes! Once, all sleeping railcars had triple-stacked wooden bunks," Antonio said. "George Pullman changed all that in 1864. His new sleeping cars had sliding seats, better heating, and upper bunks that folded into the ceiling during the day. FRED HARVEY, a Kansas



Harvey Cars were dining cars invented by Fred Harvey, a Kansas restaurant owner.



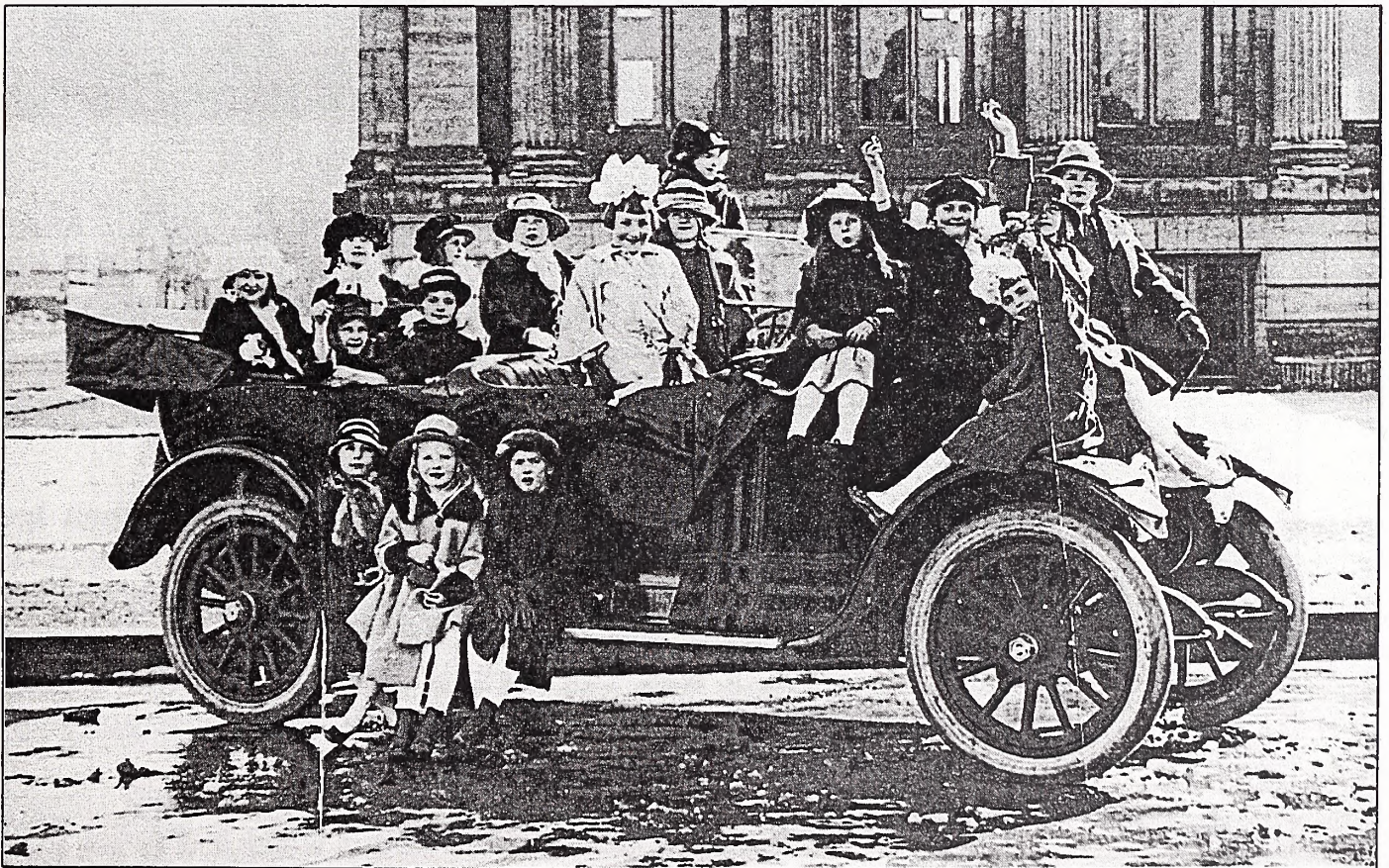
Narrow Gauge Railroads in Colorado Since 1870

restaurant man, introduced dining cars. For the very rich, famous, or for Presidents, there were private railroad cars, often elegant palaces on wheels."

"What happened to all those railroads?" Dominic asked. "I wish we still had them today. It would be cool to ride on those old trains! Sometimes my family goes to Denver, Grand Junction or drives to Gallup, New Mexico, to ride on Amtrak. We've taken Amtrak to Los Angeles, Seattle, and Chicago. It's really fun!"

"During the 1920s, CARS and trucks, and later airplanes, got really popular," Antonio said sadly. "Many railroads couldn't compete. Mining and farming tapered off during the '20s, too. There was less freight to carry. Owners sold rails for scrap metal and dumped or sold railcars for use elsewhere. Some places bought railcars to make them into restaurant diners or tourist shops. Trains carried the MAIL though"

"That's kind of sad," I said, speaking my thoughts out loud.



Children pose at the Denver Civic Center on St. Patrick's Day, 1916. When the use of the motor car became wide spread, railroads found it difficult to compete for passenger travel.



Postal service activities in a U. S. Mail railway car, about 1930.

“I think so. When a bunch of railroads hit hard times,” Antonio recalled sadly, “they often lost all their money and went bankrupt. The Great Depression hit in the late 1930s, and a bunch of smaller railroad lines failed. The railroad companies felt desperate. Some even sold their steel rails to Japan!”

“My grandfather took the railroad home when he came back from World War II,” Billy pointed out. “Wasn’t that after the Great Depression?”

“Yes, it was. During and immediately after World War II, the railroads boomed again,” Antonio explained. “Why do you think that happened?”

“I think my grandfather said it was hard to get gas and tires for cars because the military needed them. The war brought more shipping of freight and moving the

military and other people needing to get around. So that meant the railroads made good money?" Pedro guessed.

"Right," Antonio agreed. "Even after the war, the railroads hauled freight. Many passengers continued using the passenger trains for local or within-state travel. Most of the mail moved by rail in those days, too."

"Booms and busts of railroading," Billy observed.

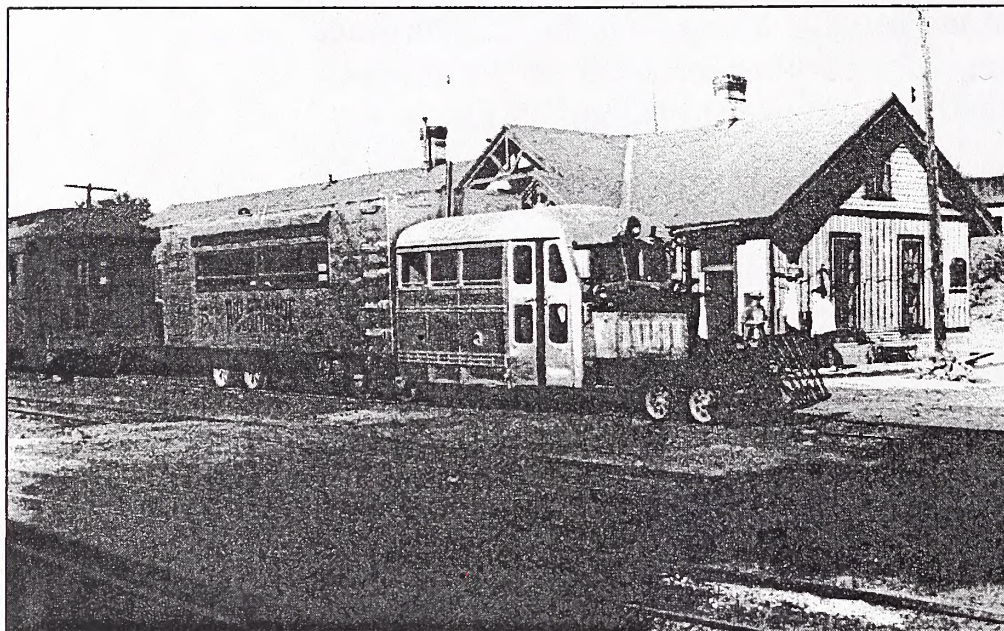
"It seems like constant booms and busts," Antonio admitted. "Times got tough again during the 1960s. Airplanes and the new national highway system pretty well wiped out passenger trains. Railroads discovered freight was the only way they made any money. Those rail companies that survived had to merge, the rest went out of business. They replaced their steam engines with diesel engines."

"What happened after the Sixties?" Sam asked, another kid who'd wandered over to see what we were all talking about. I looked around and found quite a crowd.

ROUTE OF THE <i>Vista-Dome</i>				ROUTE OF THE <i>Vista-Dome</i>			
ROYAL GORGE				COLORADO EAGLE			
BETWEEN DENVER • COLORADO SPRINGS • PUEBLO GLENWOOD SPRINGS • GRAND JUNCTION PROVO • SALT LAKE CITY				BETWEEN DENVER • COLORADO SPRINGS • PUEBLO WICHITA • KANSAS CITY • ST. LOUIS			
READ DOWN		See Page 9 for Equipment		READ DOWN		See Page 9 for Equipment	
READ UP		READ UP		READ UP		READ UP	
No. 1 Daily	Miles from Denver	Mountain Standard Time		No. 3 Daily	Miles from Denver	Denver & Rio Grande Western Railroad	
9 00 AM	0	Lv Denver, Colo.	Ar 3 00 PM	4 15 PMST	0	Lv DENVER, COLO.	Ar 9 50 AMST
10 50 "	75	Lv Colorado Springs, Colo.	Lv 1 08 "	5 53 " "	75	Lv Colorado Spgs., Colo.	Lv 8 11 " "
11 50 "	119	Ar Pueblo, Colo.	Lv 12 05 "			(Pikes Peak)	
12 15 PM	119	Lv Pueblo, Colo.	Ar 11 45 AM	6 45 PM "	119	Ar PUEBLO, COLO.	Lv 7 20 " "
1 23 "	160	Lv Canon City, Colo.	Lv 10 40 "	No. 12		Missouri Pacific R. R.	No. 11
1 36 "	166	Ar Royal Gorge, Colo.	Lv 10 27 "	6 55 PMST	119	Lv PUEBLO, COLO.	Ar 7 10 AMST
Ten minute stop to view America's best loved travel wonder. Here is located Hanging Bridge, suspended between sheer canyon walls, just 30 feet apart. Above may be seen the World's Highest Bridge, across the Royal Gorge, 1,053 feet above the railroad tracks.				7 45 " "	170	Lv Ordway, Colo.	Lv 5 57 " "
1 46 PM	166	Lv Royal Gorge, Colo.	Ar 10 17 AM	12 06 AM "	458	Ar Hoisington, Kans.	Lv 1 33 " "
3 25 "	215	Lv Salida, Colo.	Lv 9 00 "	1 18 " CST	458	Lv Hoisington, Kans.	Ar 2 19 " CST
5 15 "	281	Lv Tennessee Pass, Colo.	Lv 7 11 "	1 57 " "	492	Lv Geneseo, Kans.	Lv 1 40 " "
Cross the Continental Divide at Tennessee Pass, highest main-line standard gauge railroad in the United States.				5 45 AMST	580	Ar WICHITA, KANS.	Lv 10 00 PMST
8 00 PM	360	Lv Glenwood Springs, Colo.	Ar 4 40 AM	3 06 AMST	565	Lv Herington, Kans.	Lv 12 19 AMST
2 15 AM	450	Lv Grand Junction, Colo.	Lv 2 40 "	3 39 " "	592	Lv Council Grove, Kans.	Lv 11 56 PMST
5 31 "	619	Lv Price, Utah.	Lv 8 42 PM	4 53 " "	662	Lv Ottawa, Kans.	Lv 10 38 " "
7 50 "	701	Lv Provo, Utah.	Lv 6 10 "	5 20 " "	683	Lv Osawatomie, Kans.	Lv 10 18 " "
8 55 "	745	Ar Salt Lake City, Utah.	Lv 5 15 "	6 55 " "	742	Ar KANSAS CITY, MO.	Lv 9 10 " "
				7 15 " "	742	Lv KANSAS CITY, MO.	Ar 9 00 " "
				10 00 "	900	Lv Jefferson City, Mo.	Lv 6 05 " "
				12 15 PM "	1021	Ar ST. LOUIS, MO.	Lv 4 00 " "
				MST Mountain Standard Time. CST Central Standard Time.			

Time table page from the Denver & Rio Grand Western Railroad Company, 1960.

The Galloping Goose No. 5



The Galloping Goose No. 5 at the Cumbres and Toltec Scenic Railway depot in Chama, New Mexico, ready for the first run in 47 years, June 1998.

The Goose Gallops Again!

The Rio Grande Southern Railroad was responsible for the creation of the town of Dolores, Colorado, in 1892. Within a year, the original settlement of Big Bend, two miles to the west, moved and became Dolores. The Rio Grande Southern served Dolores from its completion in 1893 until it abandoned the railway in 1951.

Rail service to Dolores came from both Ridgway and Durango.

When the railroad could no longer afford to operate a regular train over the tracks, it began operating several "Galloping Geese." A Galloping Goose was a combination of a truck and railroad car. On the front was a modified truck with railroad wheels. On the back end, a Galloping Goose usually had something that looked like a small railroad passenger car and freight car.

The Galloping Geese were things of wonder. People called the odd-looking machines "Galloping Geese" because of the way they looked going down the tracks. They wobbled down the tracks spewing gasoline fumes, brake shoe smoke, radiator steam, and oil puffs.



The Galloping Goose No. 5 takes on Tanglefoot Curve on the east side of the summit of Cumbres Pass, New Mexico, June 1, 1998. Note the railroad ties lying beside the track.

People thought each machine looked like a goose waddling rapidly down the track—a Galloping Goose!

The Galloping Goose provided mail, freight, and passenger service for nearly twenty years on the Rio Grande Southern rail line (from 1933 until 1951). Volunteer railroad fans restored Galloping Goose #5 in 1998. Restored, it galloped again for several trips along the Cumbres & Toltec Scenic Railroad in June 1998 and along the Durango and Silverton Narrow Gauge Railroad in September 1998.

The Galloping Goose Historical Society is planning more trips and hopes to operate the rail machine near Dolores, Colorado, in the future.



Union Pacific steam locomotive No. 38, "The Pony Express," receives orders at the whistle stop at Borie Cutoff for Denver, about 1954. Diesel engines would soon replace steam engines.

"I sometimes see long coal trains from the highway," Billy pointed out.

"Yes, there are some trains that have up to 100 coal cars in them," Antonio hurried to agree. "You see them along Interstate 25 and Interstate 70, all right. But trucks, buses, and airplanes carry the most people and freight. Today, most trains are freight trains. The few narrow gauge railroads left are either tourist lines or displayed in museums or park exhibits."

"Did you see trains here in Trinidad?" I wondered.

"Yep, sure did!" Antonio replied. "I miss the steam engines with the dozens of trains that passed through Trinidad daily. We used to see famous trains like the SANTA FE Super Chief, and the Texas Zephyr. We dreamed of riding in the luxury of a dining car, or the Pullman Sleepers and VISTA DOME Cars. Too bad



they're gone forever now. Don't even hear that beautiful sweet, sad sound of the train whistles anymore."

He suddenly noticed the size of the gathered crowd. Uncomfortable with all the attention, Antonio stood up.

"Well, I best be getting inside. Thanks for stopping by," Antonio whispered to Suzanne and those of us who were there first. "Maybe you'll feel a little different now that you know more about the history of Colorado's railroads."

Then he waved once, and went back inside his house.

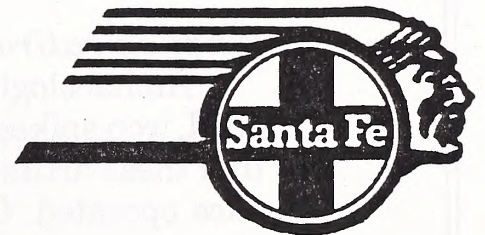


"I never knew all that about railroads!" Ryan said, when Heather finished her story.

"That's why I told you about Antonio," Heather smiled, taking the big spike and putting it back with other railroad artifacts. "This will never look like just a big nail again, will it?"

"Spike! It's a railroad spike!" Ryan laughed.

"I wonder what else we can learn about Colorado's past!" Heather said. "Come on, let's see what else we can discover here." ♦



These logos were common sights in the 1950s and 1960s.

Railroads Summary

What do railroad sites look like?

When railroads abandoned their lines, crews took up the tracks. The rail companies sold their rails for scrap metal or other uses. The old railroad beds remained. Some railroad beds became modern highways and roads. Archaeologists still find former railroad beds. The beds look like a long, raised pathway with gentle curves and slopes on hills. You can hike or drive along one at the top of Lizard Head Pass in Southwestern Colorado.

Sometimes, archaeologists find old station sites with only their foundations remaining, especially in abandoned town sites.

Like the tracks, companies sold old engines and railcars for scrap or for use somewhere else. Today, many groups of people like to restore these old engines for everyone to see. We can see old engines in museums or town parks in places like Alamosa, Boulder, Craig, Fort Morgan, and La Junta.

What do railroad artifacts look like?

Archaeologists might find large, curved bands of rusted steel, iron spikes, and bits and pieces of coal. They sometimes find these artifacts in remote areas where logging railroads once operated. Old station sites might have bits of broken glass or pottery, door hinges, pieces of freight wagons, rusty nails, and other metal artifacts typical of the time.

Is collecting things from old railroad sites OK?

Historic sites are just as important as prehistoric sites. It is illegal to collect anything from any site on public lands. It is also illegal to collect anything from private land that isn't your own.

Word List

narrow gauge—a distance between the rails of a railroad track that is less than the standard width of four feet, eight inches; a railroad or railroad car built to narrow gauge specification. In Colorado the narrow gauge distance was three feet.

standard gauge—a railroad track having a width of four feet, eight inches; a railroad or railroad car built to standard gauge specification.

steam locomotive—a railroad vehicle that contains a steam engine that moves it.

ties or crossties—thick, square pieces of wood laid crosswise under the track to hold the solid iron rails in place. Early ties were made of stone. The rails are held to the ties by metal spikes.

whistle stop—a town or station at which a train stops only if signaled.



Doris: Homesteading on the Colorado Plains

1870-1910

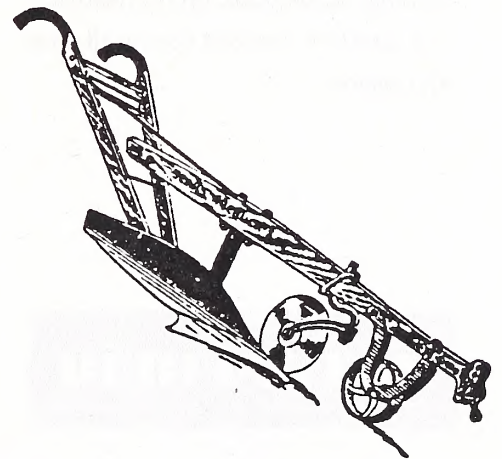
by **Frederic J. Athearn**

with Introduction and Conclusion by **Karen J. Laubenstein**

“WHAT’S THAT TOOL? I’ve never seen one like that before!” Ryan said, as Heather and their friend Kathleen continued to explore the Colorado History Museum in Denver.

“I know what that is!” Kathleen announced. “It’s a PLOW made from saw-blade steel, to farm with on the prairies. Oxen or horses pulled those plows to turn the heavy sod. See? It says John Deere invented this plow in 1837!” She showed us the label for the device.

“It doesn’t look like much,” Ryan replied, then pointed at another artifact. “Why would the museum put barbed wire on exhibit?”



Prairie plow, similar to the one Doris’s family might have used.



Homesteaders arrive to Colorado by covered wagon, about 1885.

Homesteaders

Homesteading contributed a big source of Colorado's population from about 1870 to 1910, or about 100 years ago. The Homestead Act of 1862 allowed settlers to get government land at low cost. Railroads brought thousands of would-be farmers to the eastern plains of Colorado. The rush for gold or silver often drew people to the state. When they quit mining, some took up homesteading. Settlers created towns all over the plains.

"Windmills, **BARBED WIRE**, and the plow are the tools that really tamed the West," Kathleen smiled. "The windmills pumped water to drink and to irrigate the fields. The twisted strands of barbed wire made farming possible and protected the crops from getting trampled by cattle. The improved plows made crops possible. I learned all this from my Great Grandma. She lived on the prairie for many years, as a **HOME-STEADER**."

"Can you tell us more about homesteading?" Heather asked. Kathleen nodded, and began her story . . .



"Will we ever be there?" Doris's son asked. Thomas was only five years old. The three of them were shifting uncomfortably on the narrow wooden bench on the train. Doris, her husband Tom, and young Thomas had been riding for days on this Rock Island train.

"We will son. It seems like miles and miles of prairie, doesn't it?" answered Doris, trying to cheer him up. "Look, the yellowed grass looks almost like ocean waves as it rolls in the constant winds."

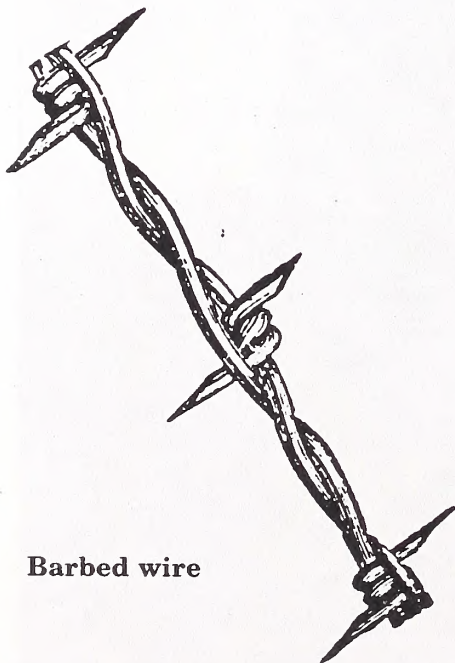
"Yes, Ma'am," her son responded. After a moment he said "It just seems like we've seen the same view out the windows for months, not just days."

"Are you hungry?" Doris asked, to change the subject. She handed him some food they'd brought along. They couldn't afford the cafes at the train depots.

Thomas ate and handed some back to her.

"No thanks, I'm not hungry at all," Doris said. "I just want to be there!"

She hadn't expected just getting to Colorado was going to be so difficult. It felt like more than a week had



Barbed wire

passed since they'd packed all they could carry and boarded the train.

"Burlington, next stop!" the conductor cried out from the front of their rail car.

"That's our stop!" Tom told her.

"But, I don't see very much here!" Thomas pointed out. The train was slowing down, and the chug-ah, chug-ah, chug-ah became more of a chug-chug-chug-ah. Then the brakes squealed, and the train pulled to a stop.

Near the end of the train, some rail men unloaded their bags and the small wooden wagon and dusty mules that were Tom's.

"Hurry, folks! We've got to get moving!" the conductor urged them out of the train. They found there was no depot, only a very battered sign reading 'BURLINGTON' and a few buildings.



"Oh Tom, it is wonderful to be off the train!" Doris declared. She watched Tom quickly hitch the two mules to the WAGON. He loaded Thomas into the back with their belongings, then helped Doris up into the seat beside him.

They began the ride to their new home. Soon Tom followed what was barely a path through the waving grass, not a road at all.

"Pa, is this still a road?" questioned Thomas, voicing Doris's fears.

"Yes son, it is." answered Tom. "We're homesteaders. That means we're among the first people to settle this land since the Indians were moved off. So there isn't much of a track out to our land. But it's ours son! All we have to do is 'prove up' on 160 acres." Tom sounded enthusiastic.

"How will we do that Pa?" questioned Thomas.

"We'll have to improve it. We'll build a fine house and farm the land," shouted Tom. He had to shout to be

heard over the noisy wind.

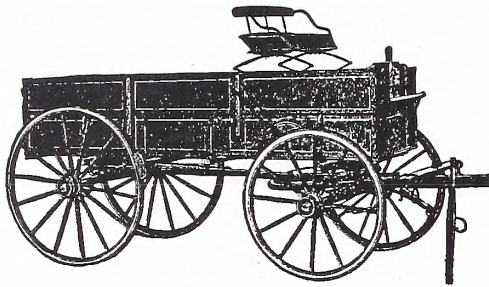
The wind never stopped. It blew so hard, that soon their faces were red and chapped. The mules plodded slowly along.

They rode about 30 miles north, to the most desolate place Doris had ever seen. The only thing there was the unbroken prairie. She couldn't see any trees or water anywhere. The wind howled constantly. Most importantly, there was no house.

Doris couldn't help it, she cried. "I can't believe you've brought us to this horrible place," she sobbed, "And we're expecting another baby come winter!"

Tom and young Thomas tried to comfort her, but it was a while before she could stop crying.

"Where will we live? In the wagon?" she sniffed,



1897 horse-drawn farm wagon. Tom, Doris, and Tommy used a wagon like this to get home.



Homesteaders pose for a photograph in front of their "soddie" house, about 1880.

almost afraid of what Tom was going to say.

“No, a TENT,” Tom replied, bothered by his wife’s reaction.

“A tent! A tent!” Thomas hooted happily, making his father smile in relief.

“We’ll live in a tent until I can build a house,” Tom announced, helping Doris off the wagon.

“But, Tom, there’s no wood!” Doris pointed out, staring at the endless sea of grass. “There are no trees anywhere! What will you build a house from?”

“There’s sod!” Tom said. So there was, and soon they worked side-by-side cutting brick-like blocks out of the prairie soil. They discovered the sod was like concrete. They stacked the bricks to build a one-room house. It was hardly a fine home, but Doris thought it was better than a tent.

“Does anyone else live in a house like this, Tom?” Doris asked as they finished the house.

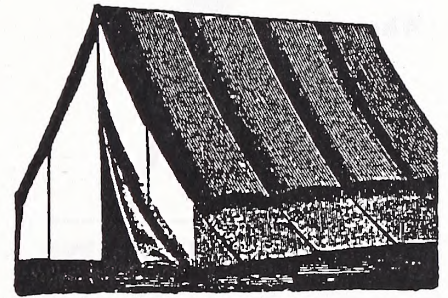
Tom smiled. “Yes, my dear. You now have what everyone calls a ‘**SODDIE.**’ I figured it would be the best thing we could live in. These soddies are cheap, easy to build, and cool in the summer,” Tom told Doris. “They keep the winds out. I think it will be better than trying to build a ‘dugout’ home down into the ground. Later, when we can afford the lumber, I’ll build you a wood house. For now, we’ll have our soddie.”

“What about the grass in it? Will it sprout?” Doris asked imagining her home looking like a hairy plant.

“The neighbors told me we’ll have to weed the bricks in the spring, or their growing roots may break the bricks open,” Tom answered.

“And in the rain? Will it dissolve in the rain?” questioned Doris, still uneasy about her new home.

“In a heavy rain, we’ll need to prop up the roof so it won’t cave in. Some weeds will probably grow on the



Wall-style tent. This served as their first “home.”



Wheat

Dryland farmers. "Dryland" farmers are farmers who raise crops like wheat without any water, except for rainfall. Most settler families were isolated and poor. Life, like the environment, was harsh. There were no trees, the soil was poor, the wind never stopped blowing, and there was little moisture. For homesteaders used to moist, green eastern farming conditions, the west was dry, barren and empty.



Rattlesnakes, bullsnakes, and mice all lived on the praries.

roof. Otherwise, it's easy to care for. And, we can easily replace any sod bricks," Tom answered, feeling a bit impatient with all the questions.

The soddie's dirt floor was soon as hard and bare as cement. They walked back and forth over it packing it hard just by doing the daily chores. The soddie was very dark inside. They filled any gaps in the sod walls or roof with clay or manure from the mules. Tom dug a shallow well nearby with a shovel, to get their water.

After they moved into the soddie, Tom began to plow their 160 acres of claimed land. It took both mules and more than a few plow blades to break the land for their crops. The sod was thick with the roots of the grasses. When Tom was done plowing, all three of them walked the long rows and planted the WHEAT. Then they prayed for rain because they were **dryland farmers** with no irrigation water. Often when the rain did come, there were terrible thunderstorms, sometimes bringing icy hail. Powerful lightning and earth-shaking thunder often rolled dangerously over the prairie.

Doris found that every day was busy. Every chore was much harder on the prairie than it had been back East. She used rocks to wash their clothing. She had to cook the food for the day at the fireplace. She had to raise and care for young Thomas. She struggled to raise a vegetable garden behind the soddie.

One day she said in exasperation, "I wonder if I can ever learn to cope with all these pests. There are bed-bugs, fleas, and mice that love living in our soddie! And the bullsnakes just come right in to eat the mice. I had to chase another one out with a broom today!"

"I know dear. But we should be glad they're just bullsnakes. The neighbors tell me that where you have bul snakes, you don't have many RATTLEERS. They eat the same food." Tom said, trying to cheer her up.

"Humph," Doris grumped as she took her feather duster to the chair again. The constant dust from the wind coated everything.

To help keep them over the long winter, Doris dried

the vegetables from her garden. Some, like potatoes, she stored in the root cellar Tom dug. She and young Thomas gathered buffalo chips of dried manure to burn in the stove. She taught young Thomas lessons, since there was no school within fifty miles. They got up at four in the morning and went to bed by nine at night.

Then winter came. "I had never known it could be so cold!" Doris said to Tom one day as they sat before their fire.

“It is amazing, Doris. Tuesday night it reached minus 40 degrees below zero! Last night it got so cold, it broke our thermometer. The wind was blowing the snow so hard I couldn’t see five feet in front of me when I went out to feed the mules!” Tom shook his head.

Two days later a neighboring settler stopped by. "I'm mighty glad to see you all well," he said. "I'm afraid I have bad news. The Smiths down the road froze to death," he sadly told Doris and Tom.

Many settlers froze to death during blizzards. Tom and Doris were careful not to let young Thomas go out in the storms. Tom made sure the mules had plenty of feed so he didn't have to go out during the blizzards.

That first winter, Doris gave birth to a little girl in February. Luckily, there was no blizzard so one of their far distant neighbors could come to help with the birth. Now she had two children to care for!

There wasn't much time for fun because it was such hard work surviving. They had no electricity and no running water. They read a lot, especially the Bible and the SEARS catalog, during the long winter days. Doris couldn't play music until the family finally got a piano, many years later. Their nearest neighbors were more than a mile away. Visitors were very rare since it was thirty miles to town and the post office.

Doris found life on the prairie unbelievably lonely. One day she said to Tom, "I wish there were trees for songbirds to perch in. I do so miss their songs. It would be nice to hear something beside the moaning wind."



**1897 edition of the Sears
Roebuck & Co. mail order
supply catalogue. Homestead-
ers ordered many things from
the Sears catalogs.**

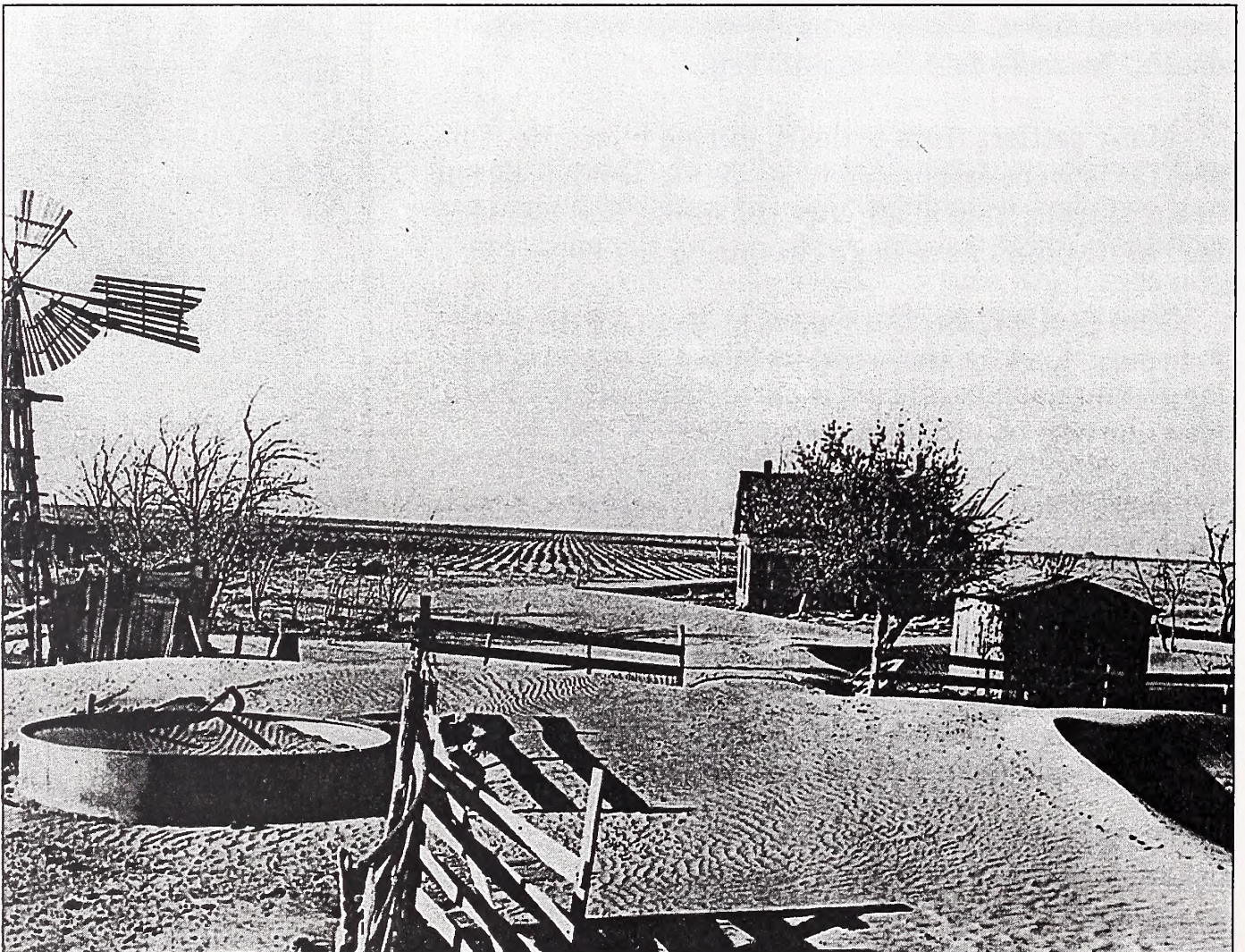
Before their second summer began, Tom did something about it. "Doris come out. See what I have for you," he called one day.

Doris put down her mending and rushed out the door. "Oh Tom, it's a bird! Where did you find it?" she cried. She could barely contain her excitement.

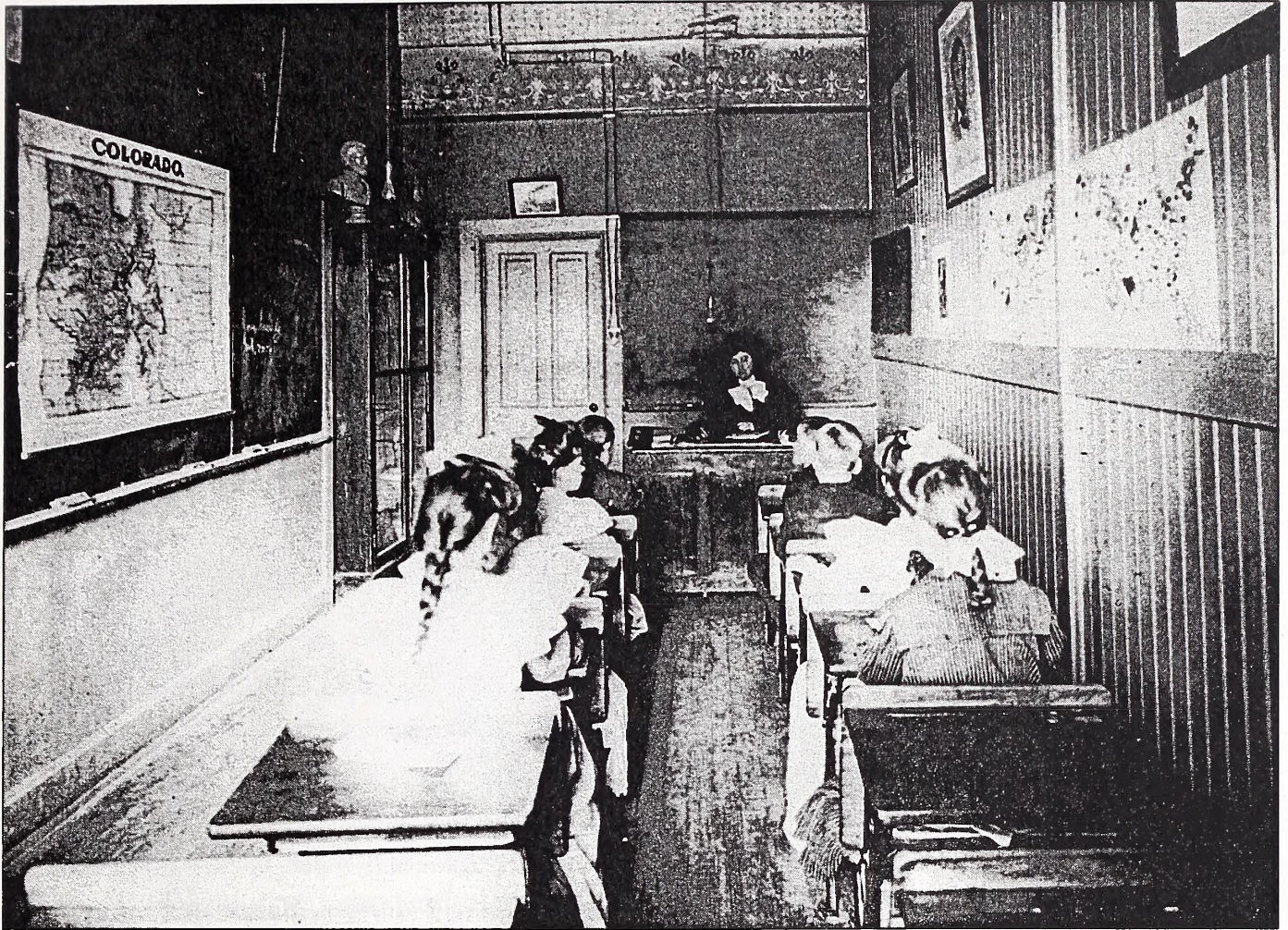
"I traded with a neighbor for it. I hope you'll like it," he said looking at her fondly.

"Like it? I surely do! Oh, Tom, thank you. It means so much to me! Come let's find a place to hang it!" They hung the cage from the rafters of their soddie. The yellow canary not only brought joy to Doris, but also kept the new baby entertained for hours.

Young Thomas enjoyed his new life on the plains.



"Dust bowl" farm near Ramah, Colorado, April 1935.



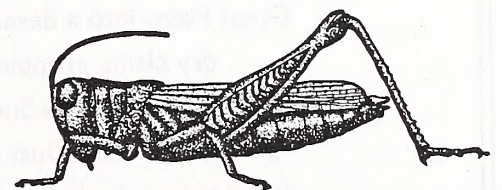
Interior view of a Colorado one-room school with students and teacher, about 1910.

The fields of grass were both his playground and his school. When he completed his daily chores, he could roam and learn nature's secrets, its benefits and its dangers. Later Thomas attended a new ONE-ROOM SCHOOL.

One year, young Thomas, now a bigger boy, brought in a GRASSHOPPER. "What is this, Pa? They're all over the ground."

"Thomas, if the hail doesn't get the crops, these large grasshoppers will. They are called **locusts**," answered his father glumly. Swarms of the critters ate everything in sight! They covered the soddies and left any plants leafless and dying. Doris thought it was horrible!

Despite the harshness of their new life, Doris's family lived at the homestead for more than 30 years. In



Grasshopper or locust. These large grasshoppers traveled in huge swarms across the Great Plains. They destroyed crops and even homes of Homesteaders.



A dust storm blows across Highway 59, south of Lamar, Colorado, March 1937.

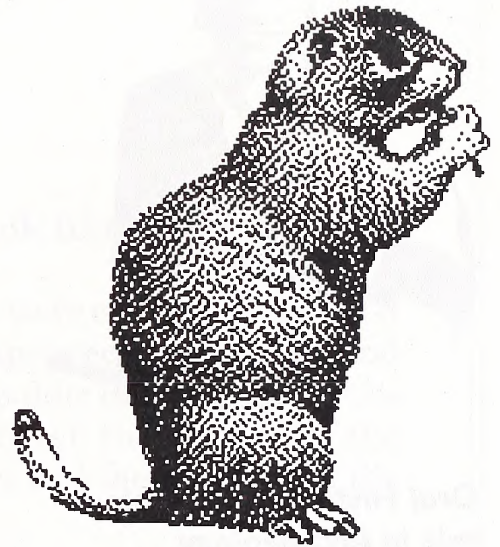
The Black Blizzard

Severe drought in the 1930s turned more than 50 million acres of the Great Plains into a desert. On May 11, 1934, a great dust storm howled across the dry plains, stripping the valuable topsoil and creating a "Black Blizzard" that blotted out the Sun. More than three hundred million tons of soils scattered all over the East. Dust even settled on ships 300 miles out in the Atlantic. It also killed farm animals and damaged crops, machinery, and homes. More than 250,000 farmers were "dusted out" and took to the road to seek work. In 1936 farmers began using contour plowing, strip planting, windbreaks, and other techniques. These actions to protect soil helped to heal the land. These methods help keep more "black blizzards" from happening in America's "Dust Bowl."

the early 1900s, there was more rain than normal and wheat prices were high. But after World War I, the prices fell and they had a harder time making a living.

They didn't move off the homestead until the 1930s. That's when the Great Depression struck. As if that weren't bad enough, it didn't rain on the land. There was a big drought called the DUST BOWL. These two events ruined most of the homesteading farmers. Doris's family left their homestead to the PRAIRIE DOGS and moved into town, where Tom found a job.

By World War II, times were better again. Tom and Doris moved from Burlington to Denver. They stayed in the Denver area the rest of their days.



Prairie dogs have long lived on the plains.



"It was a really hard life," Kathleen said, finishing the story of her great grandmother's life as a homesteader.

"Do you think she would do it again?" Heather asked curiously.

"I asked my great grandmother about that, when she told me her stories," Kathleen responded.

"My great grandmother told me, 'If I knew what I know now, I never would have left the East to settle in Colorado. That early homestead was one of the worst experiences I have ever had. It was certainly the most difficult part of my life!'"

"I don't blame her!" Ryan exclaimed. "I can't imagine life being so hard as that," Heather agreed.

"I think it's a miracle my great grandparents, my granddad, and my great auntie all survived!" Kathleen said. "Somehow, listening to my great grandmother makes me feel like I was right there, struggling alongside her. It also helps me understand why she has



Oral Histories and their role in Archaeology

Oral history is history that has been told but never written down or carefully researched. For historical archaeologists these accounts can give a wealth of information. Listening to people's stories helps explain everyday life. Details of everyday life are often not recorded by regular historians. Sometimes archaeologists find artifacts they can't explain. By asking people about the artifact the archaeologist can discover the use. Oral histories aren't always correct. For instance at the Little Bighorn Battlefield archaeologists found evidence that told them that the oral histories were incorrect about the battle.

always seemed so strong. I guess these stories made me feel something I've never felt before—a sense of being part of a family who met the odds and came out on top.”

“You must be very proud of your family,” Heather said.

“Oh, I am!” Kathleen responded. “I think it’s important to talk with our relatives about their past. If I hadn’t asked, I wouldn’t have learned about my great grandmother’s stories, or her ORAL HISTORY, as a homesteader! Somehow it makes history come more alive for me, knowing my family went through it.”

“There’s still one more exhibit area to see,” Ryan reminded them. They hurried to join him, for soon they’d be back on the bus returning to school! ❖

Homesteading Summary

What do homestead sites and artifacts look like?

Homestead sites may not be easy to spot if they were covered by the dust from the dust storms. Others are easier to find. Paper records can be found in public libraries, court records, and through the public land records of the Bureau of Land Management. These paper records tell the location of the homesteads, the names of the people who lived there and the dates when the people began homesteading.

On the ground, the metal remains of farming tools like shovel and plow blades may be found, especially near old barn structures. Old barbed wire fences can be seen stretching across the land. You might also find horse shoes and parts of old wagons and harnesses.

Sometimes a dugout house's opening can be seen or perhaps foundations of houses. Soddies usually are no longer standing, but bits of broken glass and bottles, old tin cans and parts of cook stoves mark the spots where they stood.

Often times trash was thrown in a nearby gully. There may be a mound of broken household items and farm tools in the gully. Trash was also thrown down privies or outhouses. Archaeologists sometimes find medicine bottles and liquor bottles in privies. These artifacts give them clues about things that people sometimes wanted to keep secret!

Sometimes old school houses still stand, often at a crossroads. They may still have student desks, slate chalk boards, ink wells and wood stoves inside. There may be the remains of other buildings near the school. They mark the location of a small town where people no longer live. These buildings will have similar artifacts to the homestead.

Word List Chapter 9

barbed wire—twisted strands of fence wire with barbs at regular intervals.

dryland farmer—a farmer who depends on rain for watering his crops.

homestead—land claimed by a settler or squatter, especially under the Homestead Act.

homesteader—a person who claims and settles land as a homestead.

locusts—grasshoppers that travel in immense swarms and devour vegetation and crops.

soddie—a house made out of sod. Sod is a section of grass-covered surface soil held together by matted roots.

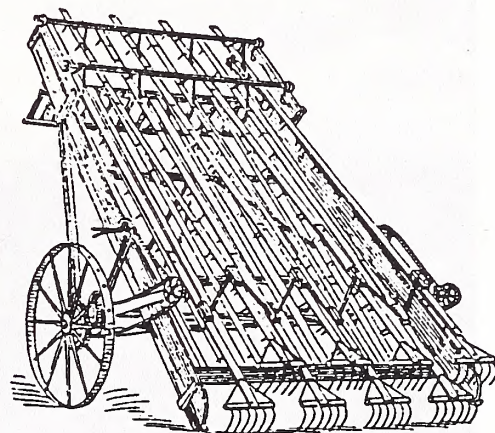
Hayboys & Cowboys— Ranching in Colorado

by **Margaret A. Heath**

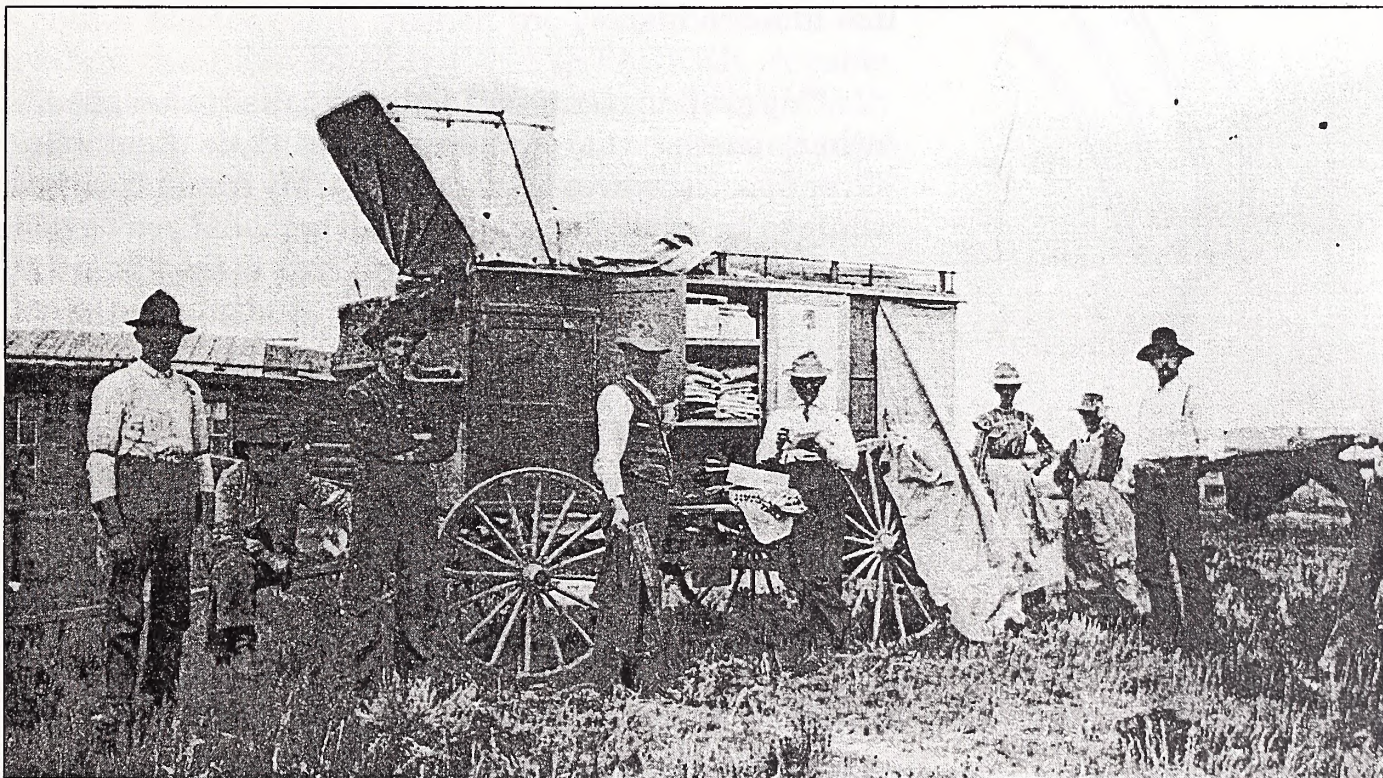
with Introduction and Conclusion by **Karen J. Laubenstein**

“**W**OW! COME AND look at this big machine!” Ryan pointed at a picture. They gathered around and looked at the odd-looking contraption near the end of their tour of the Colorado History Museum. They had just looked at gear that cowboys and ranch hands once used on the great ranches that spread throughout the West.

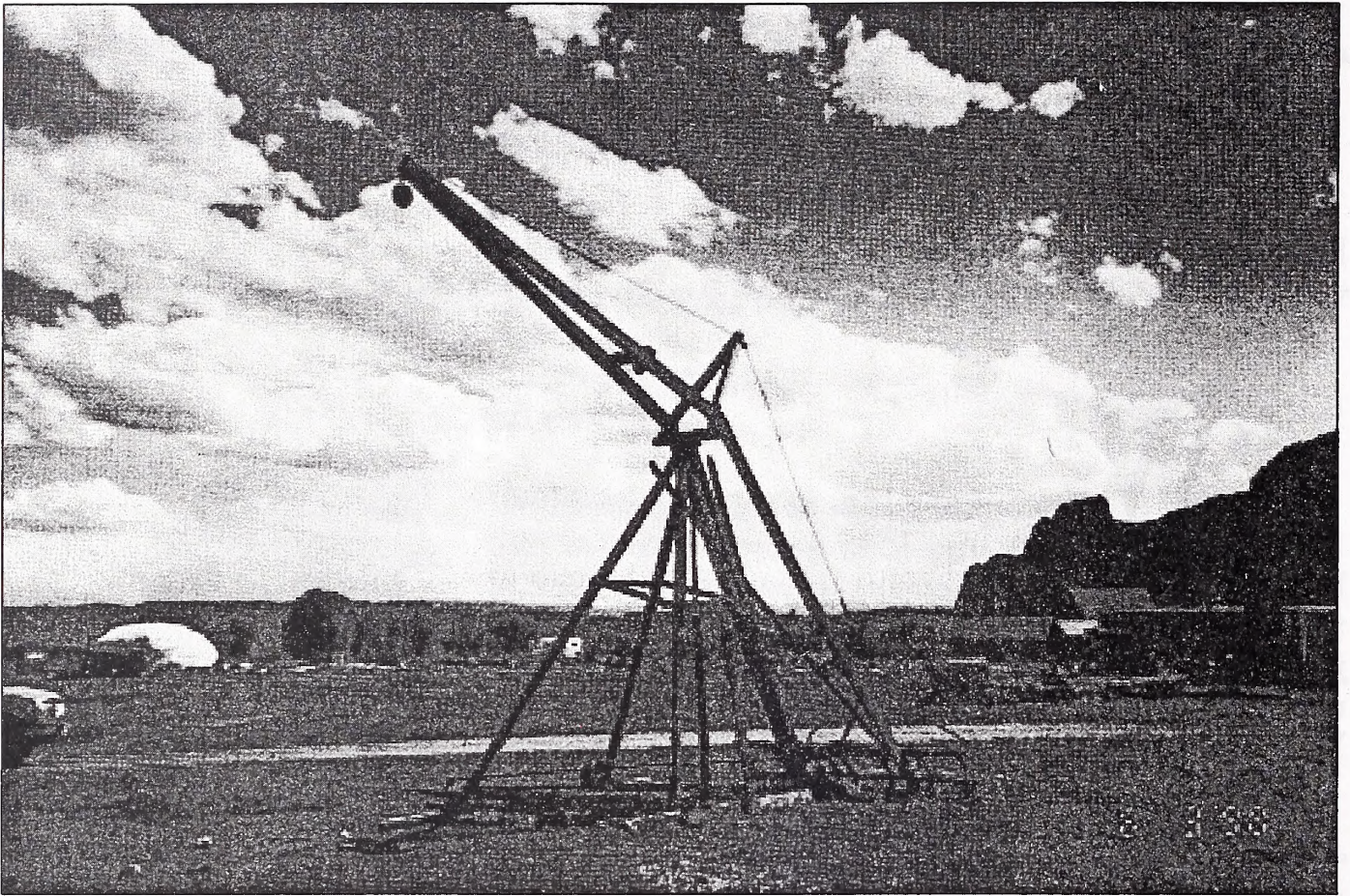
“That’s a **HAYSTACKER**,” Jennifer announced. “There’s a picture of one at my grandfather’s house. He’s in the picture, along with some other guys who worked in the hayfields. He said they were ‘hayboys’ and that thing is farming equipment that was used to stack hay.”



Haystacker sold by Sears
Roebuck & Co., 1898.



M. E. Dryer’s peddler wagon makes a visit to the J. C. Howard Ranch, near Rand, Colorado, 1899. Peddler’s wagons, and later trucks, brought goods to remote ranchers in Colorado’s high country.



Hay Sling-stacker. The sling lifted bunches of hay onto stacks.

“Jennifer, do you live on a ranch?” Heather asked curiously. “You seem to know a lot about ranching. I’d like to learn more.”

“My grandparents do!” Jennifer called to her grandfather, one of the chaperones for their field trip. “Grandpa, come over here a minute. My friend Heather wants to know about ranching. Tell her what you’ve told me about how important ranching was to the history of Colorado and the West!” All the students gathered around to listen.

“That’s right!” Jennifer’s grandfather responded. “I first got into ranching here in the Rocky Mountains when I worked as a ‘hayboy.’ That was back in 1960.”

“I told them about the picture at home, Grampa!” Jennifer said.

Grampa nodded. “I’d just finished up my third year at Harvard Business College back East, in Cambridge, Massachusetts. My roommate, Frank, lived on a ranch

near Steamboat Springs, Colorado, and was returning home. ‘Bob,’ I remember Frank saying, ‘Why don’t you come along and spend a summer ‘out West’ with me, working on my dad’s ranch.’ As you can imagine, that was an offer I just couldn’t turn down!”

“A hayboy? Out West?” Ryan repeated. “What did you have to do?”

“Well, now . . . Let me tell you about it,” Jennifer’s grandfather said, getting comfortable. “It was a hot summer . . .”



“Whew! This is hard work!” Bob exclaimed, as he wiped the sweat off his brow with his arm. He tasted grit and dry bits of hay. He tried to spit it out, but that didn’t work. Hay was scratchy, and he kept itching all over, or sneezing. Bob watched Ernie, Frank’s father, guide the tractor around the hayfield.

Ernie’s tractor raked the cut and dried hay with a special metal-toothed rake, the buck rake. It reminded Bob of a big metal spider, crawling behind the tractor. Another tractor easily pushed the raked hay onto the teeth of the BEAVERSLIDE HAYSTACKER. A cable raised the teeth and then the slide team pulled the teeth and hay up over top where it fell on the growing haystack. Jay and Frank spread the hay around with PITCHFORKS. The sounds of the plunger shoving the hay up the slide made a steady “chick-a-boom” sound.

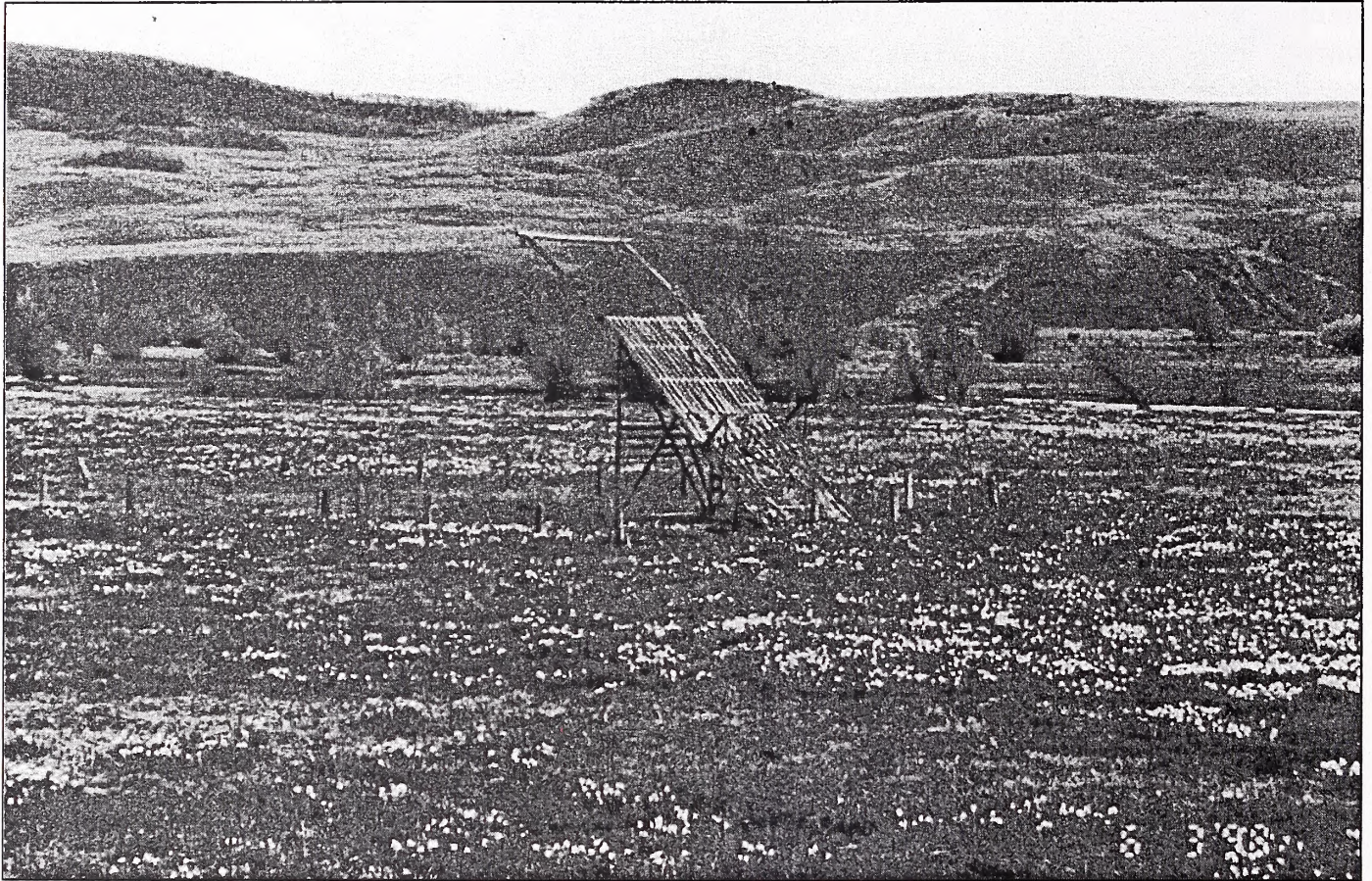
“What did you say this rig is called again?” Bob asked one of the local hay hands, or “hayboys,” who’d worked on the ranch before.

“It’s called a Beaverslide haystacker because we use it to make haystacks. See how high it piles the hay! By ourselves we couldn’t stack hay that high, but it can stack nearly 20 tons of hay up as high as 30 feet!” Jay replied.

Frank added, “By making these big haystacks, we don’t need to bale the hay. The stacks last four or five



Pitchforks were used to pick up the hay.



Beaverslide haystackers are rarely used nowadays.

years, and don't require storage. Some of the hay will blow away or become damaged by the weather or animals. That's why we make the stacks as high and steep sided as possible. The larger they are, the less is lost. Here comes some more hay!"

Bob grabbed his pitchfork and got ready to work. His job was to pull the hay around with his pitch fork and put it in an even layer going up the Beaverslide. If the hay wasn't spread out, it would pile up on the slide. Then it fell off the sides of the machine instead of on the haystack. The three other hayboys worked on the rack beside the growing haystack. All three of them changed positions regularly, making sure to keep the hay moving up the long slope of the Beaverslide and landing on the stack.

Bob thought the Beaverslide haystacker was a sensible contraption, but he didn't say so. If he did the other hayboys would grin and joke about him being such a "city slicker." Instead he asked, "Why is it called a Beaverslide anyway?"

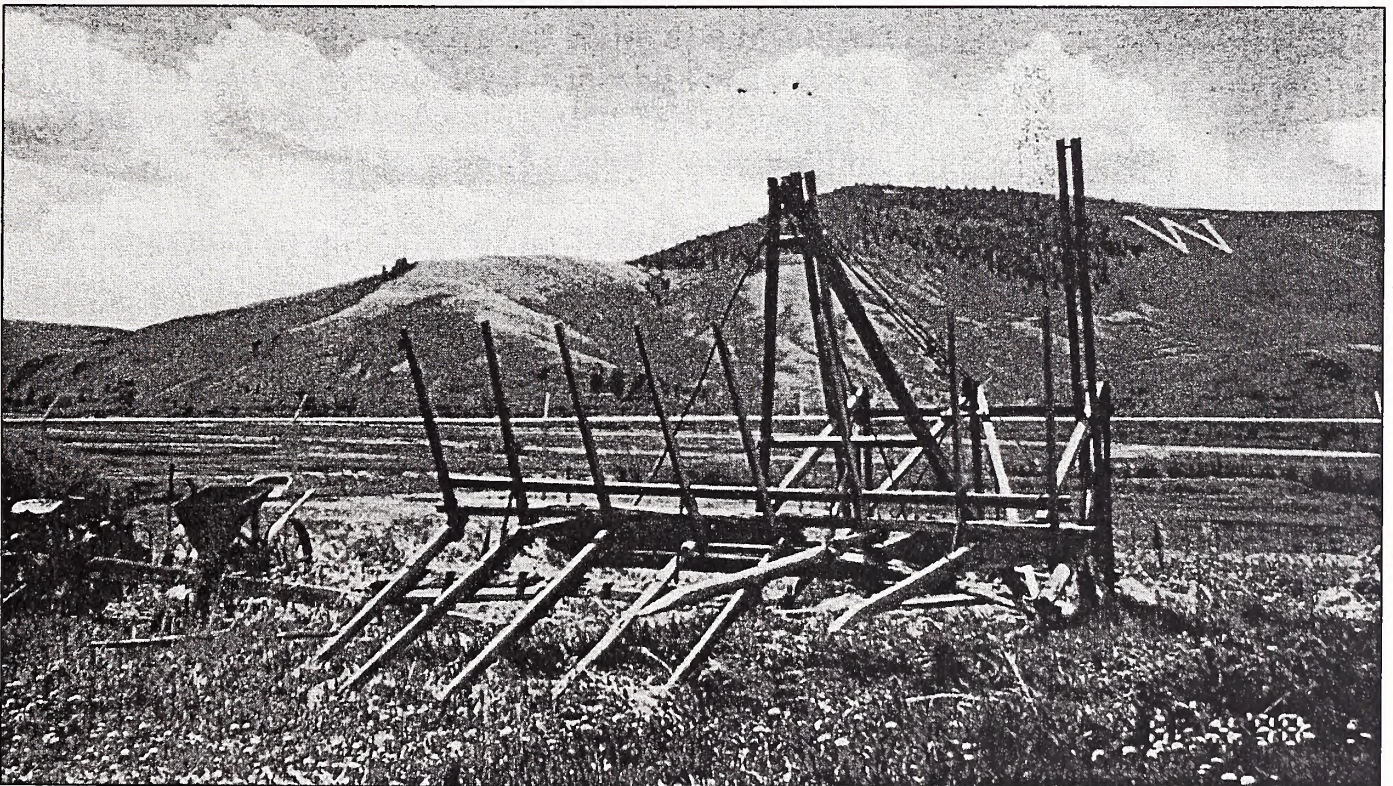
“I don’t rightly know, Bob. Beaverslide haystackers were invented near Jackson, Montana in the early 1900s. Some people use one called an OVERSHOT HAYSTACKER that wasn’t quite so tall.”

“Aren’t you the smart one?” teased one of the other boys.

“Thank you, sir!” Frank grinned. “I had to do a project on them for 4-H Club once,” he admitted.

The Beaverslide’s frame had two very long pine poles, with shorter poles between. Its wide slide lay over the frame. After the tractor moved the raked hay on to the slide’s bottom, a plunger pushed the hay up the slide. At the top of the slide, the hay was dumped over the edge so it would fall onto the growing haystack. Bob thought it was a great invention!

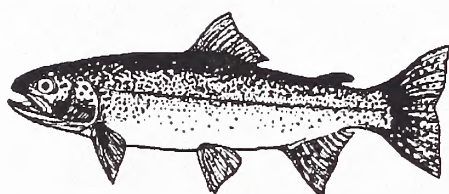
“At least there are tractors here,” Jay said. “That family down the road does all the work with teams of horses! Three groups work together. One group rakes, while one group sweeps and brings the hay to the slide.



The Overshot haystacker had cables that raised the hay up and onto a stack by lifting the hay with the “teeth” shown above.

The third group works the slide. It's lots more work without the tractors."

Being a hayboy was hard work. When he had arrived at the ranch, Bob had considered himself to be in good shape. Then he had started work. Was he ever surprised! He remembered how sore he was at first. Every day except Sunday, he got up early in the chilly, high Rockies morning. Frank's mom, Mary, could really cook! She served breakfast each morning at 6:30. Bob could never get enough to eat! Mary joked that she had to buy an extra loaf of bread a day, just to keep Bob going!



Trout

"Hey, Bob! Are you going to daydream all day, or pitch hay?" Frank called.

Startled, Bob jumped, causing the other guys to chuckle. Grinning sheepishly, he changed places with another hayboy. He climbed up the tall rack built to support the growing haystack. He got ready to catch another bunch of hay as it came over the rack, then pack it down with his pitch fork.



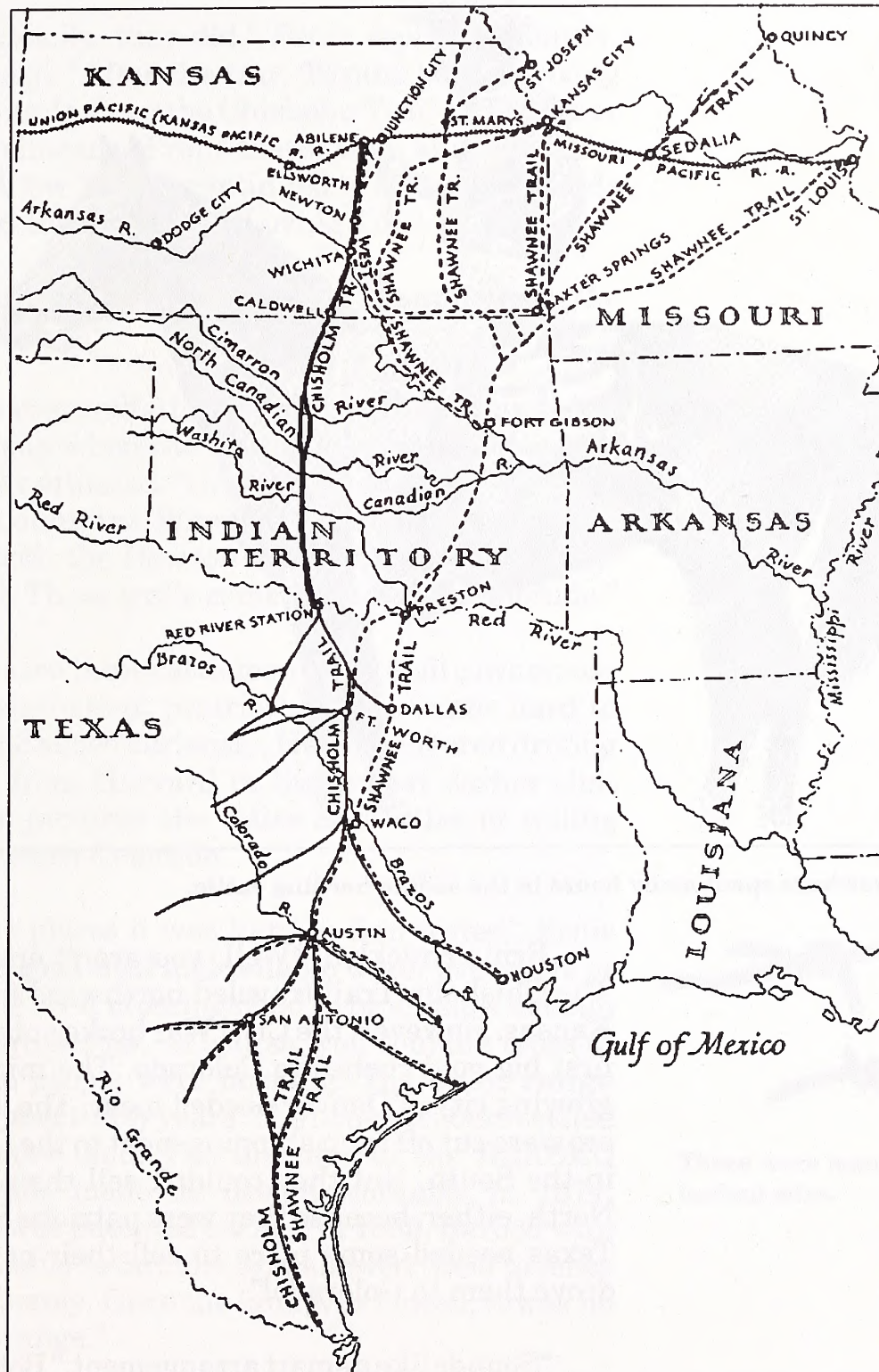
Flyfishing

By now, Bob was getting comfortable enough so he could think of other things while he worked. Life on a ranch wasn't all work. Last Sunday he had gone FISHING for TROUT with Frank and his parents in the high country, near Hahn's Peak.

"Tell me about early ranching in Colorado," Bob had asked while they fished.

Ernie cocked his head and said, "Well, ranching's been here almost since Colorado became settled. My great-great grandfather, who was a TRAIL HAND, worked the old CHISHOLM TRAIL. Have you ever heard of the Chisholm Trail?"

"I sure have," Bob answered. "Last night the other hayboys, Frank, and I drove into town. We had a bite to eat at the Branding Iron Cafe. Somebody played an old cowboy song on the jukebox about the Chisholm Trail, but I thought they were talking about Texas!"



The Chisholm Trail



Trailhands or cowboys spent many hours in the saddle herding cattle.

Ernie chuckled, "Well, you aren't entirely wrong. The Chisholm Trail traveled northward from Texas to Kansas. However, the Civil War broke out just after the first big gold rushes to Colorado. The miners and the growing city of Denver needed meat. The Texas ranchers were cut off from shipping meat to the Confederates in the South. But they couldn't sell their meat to the North, either, because they were patriotic Southerners. Texas needed some place to sell their cattle, so they drove them to Colorado!"

"Sounds like a smart arrangement," Bob had agreed. "Makes business sense."

"Yes, it was," Frank nodded. "That's how some of the Texas cattlemen brought cattle onto the plains of Colorado. Our grasslands fattened cattle as well as they did the buffalo!"

"I bet people like my family ate some of that Texan meat!" Mary said, half-joking. "They lived in Denver."

"Undoubtedly, they did," Ernie replied seriously, then continued. "After the war, Texans began driving their cattle herds along the Chisholm Trail to Kansas or Nebraska railheads. From there, they shipped them back East. A few Texans continued to bring their herds to Denver on the Goodnight-Loving Trail."

"They still got good money from the miners for the meat," Frank said.

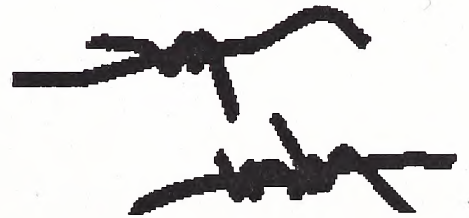
"My great-grandfather started working for a cattle **outfit** or group when the railroads came to Denver in 1870," Ernie continued. "Great-Granddad wanted to be nearer the mountains. When he had an opportunity, he worked on both the Dawson Trail and the Goodnight-Loving Trail. Those trails came farther into Colorado."

"I'm amazed those cattlemen could trail cows across those dry, wind-swept prairies! Wasn't water hard to find?" Bob had asked curiously. He remembered driving with Frank from Harvard to Steamboat earlier that summer. He pictured the miles and miles of rolling prairie in eastern Colorado.

"In some places it was hard to find water," Ernie admitted. "A good trail had reliable water every five or six miles. The river crossings had to be shallow enough to get the herd across. Of course, you couldn't cross at places where people were farming. The **open range** only lasted about thirty years. The homesteaders settled more and more land. The inventor of the **BARBED WIRE** machine made its design workable in 1874. Barbed wire was patented earlier, in 1868. Barbed wire became available to farmers and allowed them to fence their land cheaply. Once the land was fenced, it was no longer open range."

Bob looked across the beaver pond. A white-faced **HEREFORD** cow wandered up the path, leading her curious calf.

"Were the cattle Herefords or Longhorns, Ernie?" Bob wondered, hoping he sounded knowledgeable.



There were many styles of barbed wire.



Hereford cattle on the trail in early spring in Colorado.

“They were both, Bob,” Ernie replied, chuckling. “Longhorns were a tough little cow, able to survive the trail drives real well. A fella named John Wesley Prowers started concentrating on Herefords in Colorado in 1871. He wound up owning forty miles of land along the Arkansas River. That was enough to support 10,000 cattle. My great-grandfather got tired of following cows around and sleeping on the ground. He bought some cattle of his own from Prowers, and finally came to Routt County to ranch.”

“These days, most of what you see in Western Colorado are the white faced Herefords,” Frank said.

“Yes, although a few people have been bringing in those white Charolais and some others,” Ernie agreed. “I think I’ll stick with the Herefords, though. There’ll always be a need for some purebreds.”

“What was it like on the trail?” Bob had asked, hoping to hear more about being a cowhand.

“Great-Granddad said most of the herds were quite large, with 2,000 to 3,000 head of cattle,” Ernie remembered. “The better outfits hired two men for every 300 cattle. Others weren’t as good. They only hired one man for every 250 to 300 head of cattle. Then, you had to have at least two horses per man. The better outfits had six or seven extra horses for each cowboy. In those days, it cost about one dollar a head to move from Texas to Colorado. You couldn’t do that now.”

“What time of year did they start moving the cattle?” Bob wondered.

“Great-Granddad said they usually started their cattle drive from Texas in March,” Ernie replied. “With luck, they had the cows fattening up in Colorado by the end of June. One time, Great-Granddad’s outfit got caught by a spring blizzard. They nearly froze to death!



Herefords get fat on Colorado grass.

After the storm finally let up, they found out they were way off course."

"How did that happen?" Bob wondered.

"The cattle tended to drift with the wind you know," Ernie shook his head. "They lost about half their herd and had to take a longer route to get to the Arkansas River. That's when Great-Granddad decided have a herd of his own someday. He didn't want to have to go through another blizzard like that!"



Bureau of Land Management emblem



United States Forest Service emblem.

Ranching is one of the many uses for public lands managed by the Bureau of Land Management and the United States Forest Service.

"I'll bet he spent his paychecks in my great-grandfather's gambling halls," teased Mary.

"Only part of them," Ernie smiled. "He saved up enough money to come to Steamboat Springs in the early 1880s and start his ranch."

"You mean your family has owned this land for 85 years!" Bob exclaimed.

"Yes, we own the ranch down by Clark, Bob," Ernie explained. "We lease this land here where we're fishing from the UNITED STATES FOREST SERVICE. They, and the BUREAU OF LAND MANAGEMENT, allow ranchers to lease public lands so that our cattle have enough to eat. I suspect you've noticed how dry it is here."

"I'll say! I had daily nosebleeds the first week I got here," Bob answered, shaking his head ruefully.

"We don't get enough rainfall, so grasses don't grow fast enough to keep up with a herd of cows," Ernie explained. "That's why we have to move the cows onto different ranges. It keeps the ranges from getting overgrazed. We only have the cows on the leased land for part of the year, though. The rest of the time, they graze on our own pastures. You'll get to help us drive the herd back down to Clark before you leave."

"You mean I'll get to be an 'old cowhand'?" Bob glanced at Ernie with a twinkle in his eye.

"You won't be an 'old' cowhand until you can walk

like I do when I get off a horse.” Ernie joked.

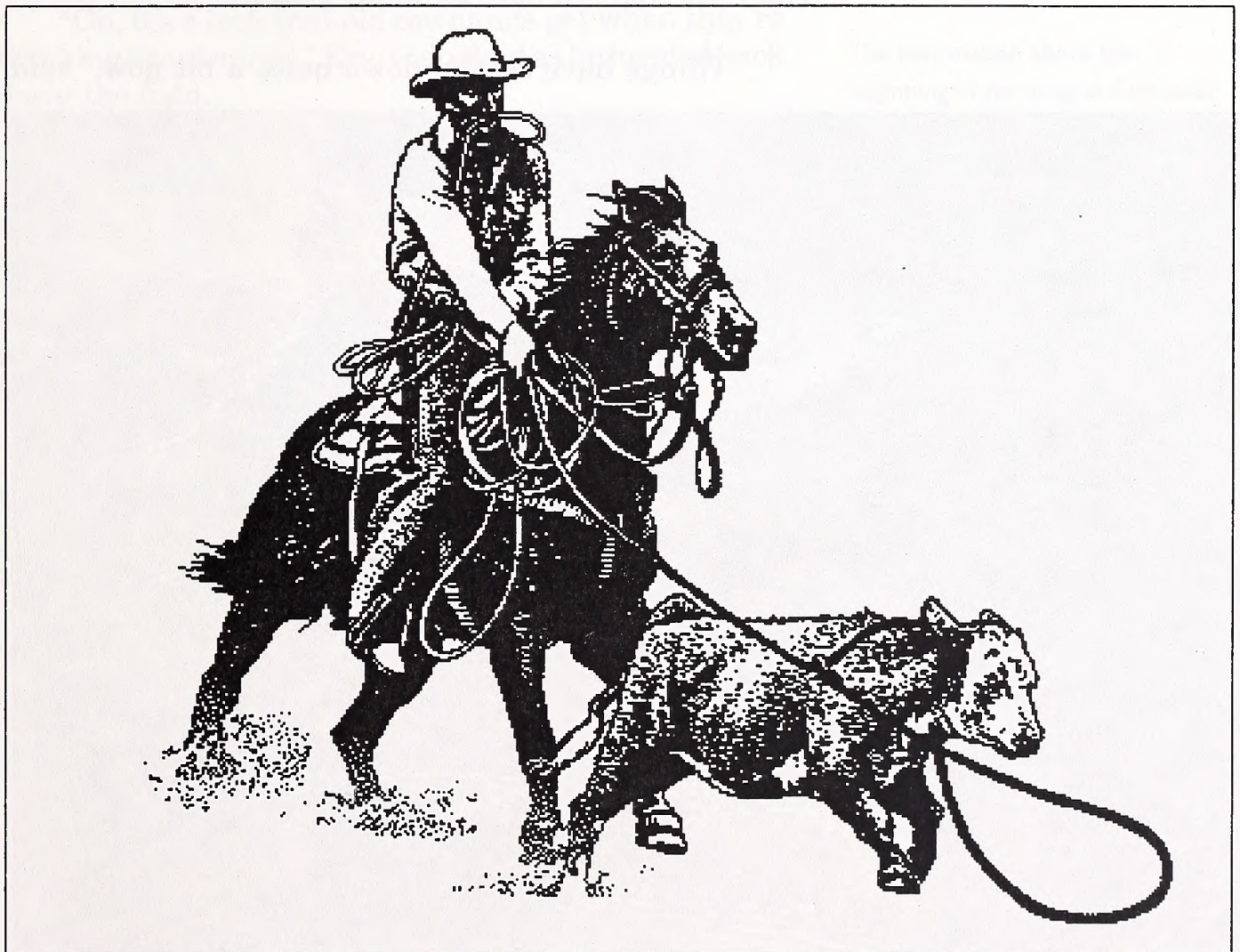
“Bow-legged, you mean.” Mary laughed.

“Well, I suppose that will be a while,” admitted Bob. He thought of Ernie dressed in worn leather chaps and cowboy boots, leading his favorite horse. Lady, his little border collie, trotted along beside him.

“Why don’t you just put them in your cattle trucks?” Bob asked.

“I suppose we could,” Frank nodded.

“Yes, but a lot of us around here like to keep up the tradition of moving them on foot,” Ernie smiled. “It doesn’t hurt them, except for losing a bit of weight, and



Frank ropes a calf with the aid of his well trained horse.

it keeps us close to our roots.”

“I’ve seen the SHEEP being moved too. When did sheep ranching come to Colorado?” Bob asked curiously.

“Well, sheep ranching has been down in the San Luis Valley since the Spanish settlement before the Pikes Peak Gold Rush,” Mary answered. “In 1869 the fine-wooled Merinos were brought to the Territory. The early sheep ranchers drove their herds to new areas. Some wound up in here in Routt County.”

“I’ve heard there were range wars between the sheepmen and cattlemen. Is that true?” asked Bob.

“Yes, I’m afraid it is,” Mary answered sadly. “There were a lot of old myths about cattle and sheep not being willing to graze on the same lands. It isn’t true of course. The wars went on here for many years.”

“Things have settled down quite a bit now,” said



Sheep head up the trail in the Colorado Rockies.

Ernie. “Everyone is learning they need to get along in order to care for the land. The rivers run through all the lands. What one person does upstream affects everyone downstream. We need to work together to keep everything healthy. I think we’re all better off.”

“Bob, watch it!”

An abrupt warning brought Bob back to reality as another bunch of hay came over the top of the Beaverslide haystacker toward him. Bob stepped sideways and nearly fell off the haystack.

“Back on the Goodnight-Loving Trail, Bob?” Ernie grinned with mischief, as he wheeled the tractor around to rake another load of hay.

“Yeah, how’d you guess?” Bob asked.

“Oh, it’s a look that old cowhands get when they’re thinking about a trail,” Ernie laughed as he headed back down the field.



“I want to come back!” Heather announced, when she climbed on the bus outside the Colorado History Museum in Denver. Behind her, she saw a family just entering the museum.

“Me, too! Do we have to leave now? Let’s stay longer!” Several students begged their teachers, as Heather slid into a seat. Ryan agreed with her, field trips always seem to end too soon! Especially this one, where they were learning about so many interesting times from Colorado’s past. ❖



Author’s Note:

The characters are based on my aunt and uncle, Mary and Ernie Murphy, and their son Frank Murphy. Bob was a hayboy on the Fetcher Ranch where Ernie worked. I met him in about 1959 when I visited Mary and Ernie. The setting is based on the ranch and the things I saw there. However, Ernie’s great-grandfather was not a cowhand on the Chisholm Trail and Ernie’s original occupation was farming. Frank Murphy still ranches near Steamboat and confirmed that they had used a Beaverslide Haystacker. Jay Fetcher still runs the family ranch near Clark.

The information about the beginning of ranching in Colorado was obtained from *A Colorado History*, Sixth Edition, by Carol Ubbelohde, Maxine Benson, and Duane A. Smith, 1988, pp. 173 - 194.

Ranching Summary

What do ranching sites and artifacts look like?

There were two types of livestock ranching and herding in Colorado: sheep and cattle herding. The sites can be told apart. Written records give us clues about events in various areas of Colorado.

What do sheep herding sites look like?

Sheep herding sites have several unique features. The herders often traveled singly with their flocks. Later herders had small sheep herder wagons that can still be seen in some areas and were occasionally abandoned. Their camps will contain broken pottery, and possibly tin cans. A very unique feature of sheep herding sites are the carvings on the trees. Archaeologists consider these tree carvings to be like rock art found in other areas. Many of the carvings were done by the Basque sheep herders who came from the Basque area of Spain.

Homes of Hispanic sheep ranchers in the San Luis Valley often have artifacts brought from Santa Fe. These may have been imported from Spain and Mexico. There will also be artifacts from the eastern part of the United States. Most of these people were Catholic and may have left some artifacts of their religion.

What do cattle herding sites look like?

Early cattle herders in eastern and northwestern Colorado did not have permanent camps. The temporary camps may be found marked by a scattering of tin cans and an occasional horseshoe.

Permanent ranches looked similar to permanent farms and homesteads. The household artifacts are very similar. There will be broken glass and pottery, and metal implements such as spoons and parts of cook stoves. The working artifacts found around barns are somewhat different because ranchers did not farm. Historical archaeologists do not expect to find plows and other farm tools in ranch sites. However some things like horse shoes and old wagon parts will be the same. Ranch sites will have such things as branding irons and boot spurs. Later ranches may still have haystackers and other early haying equipment. Ranches frequently had gardens and fruit trees as well.

Small ranching town sites will be similar to homesteading town sites. If there was a railroad to the town, there will be traces of large holding pens for the animals. The schools, churches, and general stores were similar and would have similar artifacts.

Word List Chapter 10

haystacker—a device for stacking hay.

open range—an extensive area of open land for grazing. During the brief period of open-range cattle grazing, these areas were largely free of farmers with their barbed-wire fences. After the development of barbed wire, fenced pastureland virtually replaced the open range in the western United States by 1890.

outfit—a group of persons, especially a military unit or a business organization.



Student Glossary

A

Anasazi—Navajo word meaning “ancient enemy.” It is used by archaeologists to describe prehistoric Native American people inhabiting southern Colorado and Utah and northern New Mexico and Arizona. Their descendants are the present-day Pueblo peoples. The word is being replaced by other terms such as Ancestral Puebloan or Ancient Puebloan.

archaeologist—a person who practices archaeology.

archaeology—the scientific study of past human culture as it is shown by the tools, pottery, and other relics of past societies.

Archaic—ancient, old, or surviving from an earlier people. Archaic can also mean relating to an earlier time.

arena—an enclosed area in which activities take place.

atlatl—a spear thrower that extended the range of a thrown spear. Using it caused the spear to go faster and farther than when it was thrown without an atlatl.

awl—a pointed tool for making small holes.

B

barbed wire—twisted strands of fence wire with barbs or sharp pieces of wire at regular intervals.

black diamonds—coal.

bonanza—discovery of an exceptionally rich vein of gold or silver.

brakeman—a person who operates, inspects, or repairs brakes; especially a railroad employee who assists the conductor and checks on the operation of a train’s brakes. Until the invention of air brakes, the brakeman set the brakes by hand. It was the most dangerous job on the railroad crew. He moved along the catwalk on top of the moving train and set each brake before a stop. He also attached or disconnected the railcars using a link and pin device. If he slipped, the railcars could crush him to death. Safety couplers helped brakemen stand safely to one side when the cars crashed together.

burden basket—a basket used to carry heavy loads on the back.

C

caboose—a small railway car at the end of the train where the train crew slept and “lived” while riding the rails; the last car on a freight train, with a kitchen and sleeping facilities for the train crew.

ceremony—a formal act or set of acts done in honor of an event or special occasion.

claim—a parcel of land in a mineral field that a person can mine legally because he had staked it out and recorded his title.

claim jumping—stealing someone else’s mining property, usually after the miner had staked it out, but before officially recording the claim.

colors—the pieces of gold in a prospector’s pan after washing.

conductor—railman who collects fares or tickets and helps passengers.

counting coup—among some Native American peoples, a feat of bravery performed in battle, especially the touching of one’s enemy without causing injury.

cross-cut—a mine tunnel crossing an ore vein. Sometimes used for ventilation or communication between work areas. Opposite is a “drift”

D

drift—a mine tunnel following the direction, or “drift” of a vein. Opposite is a “cross-cut.”

dryland farmer—a farmer who depends on rain for watering his crops.

E

elder—an older adult.

engineer—the driver of the train.

F

fast, fasting—going without food; thought to clean the body for religious or spiritual ceremonies and events.

flake—a small thin, flat piece of stone or other hard material.

flesher—a primitive tool, often made of bone, with sharp edges used to remove flesh from the hide.

Fremont—people who lived in western Colorado, most of Utah, eastern Nevada, and southern Idaho for about nine centuries (from about 1500 to 600 years ago). They practiced some farming, but continued hunting and gathering for much of their food.

G

gallows frame—wooden or steel scaffold on top of a mine shaft supporting the hoisting rope.

go-backers—miners who came to the West only to get rich, and left immediately after finding minerals or when a strike was ending. Go-backers usually had no interest in the land or future of the area.

greenhorn—inexperienced prospector.

grubstaking—supplying a prospector with food and gear in return for a share of his findings.

H

hard rock—ore removed only by blasting, rather than with hand tools.

haystacker—a device for stacking hay.

heritage—something handed down from earlier generations to later generations; a tradition.

homestead—land claimed by a settler or squatter, especially under the Homestead Act.

homesteader—a person who claims and settles land as a homestead.

I

ice age—the period in the world's history that began about 1.6 to 2 million years ago and lasted until about 10,000 years ago. It is also called the Pleistocene. During this period, much of the earth was covered with ice.

K

kiva—an underground or partly underground chamber in a Pueblo village, used for ceremonies or councils.

L

locomotive—train engine that moves on its own power; a self-propelled vehicle, usually steam, electric or diesel-powered, for pulling or pushing freight or passenger cars on railroad tracks.

locusts—grasshoppers that travel in immense swarms and devour vegetation and crops.

lode mining—mining a vein of mineral ore that is deposited between clearly marked layers.

lode—a mineral vein rich with ore. The main vein is the “Mother Lode”.

M

mano/metate—in the Southwest, mano comes from the Spanish word for “hand” and is a small grinding stone held in the hand or hands. The mano is used to grind corn and grain on a larger stone, the metate, to make flour.

merchant—a person who runs a retail business; a shopkeeper.

mine—an underground excavation to search for and extract mineral deposits or building stone. The term also includes some types of open-pit workings.

muck—debris or material left after blasting hard rock. Muckers were miners who shoveled the ore-bearing debris into a car or chute.

N

narrow gauge—a distance between the rails of a railroad track that is less than the standard width of four feet, eight inches; a railroad or railroad car built to narrow gauge specifications. In Colorado the narrow gauge distance was three feet.

I

obsidian—a hard, black or dark-colored, glassy volcanic rock that forms when lava cools. It is easy to shape into stone tools by flaking and is extremely sharp. Today, some surgeons prefer using obsidian tools to using metal tools.

open range—an extensive area of open land for grazing. During the brief period of open-range cattle grazing, these areas were largely free of farmers with their barbed-wire fences. After the development of barbed wire, fenced pastureland virtually replaced the open range in the western United States by 1890.

ore—a mineral or rock that is mined for the metal or other substance it contains.

outfit—a group of persons, especially a military unit or a business organization.

P

Paleo-Indian—the name given to the oldest known cultural group in North America.

petroglyph—pictures created on rock faces by striking the rockface with a harder rock.

pictograph—a prehistoric painting on a rock wall.

placer—deposit of sand, dirt, gravel, or clay in a stream bed containing bits of valuable minerals. Miners could mine placer gold by washing the gravel.

placer mining—obtaining minerals from placers by washing or dredging.

plaza—a public square or similar open area.

point—an object having a sharp or tapered end, such as a stone projectile point.

pottery—pots, vases, cups, bowls, and other dishes or objects made from clay and hardened by heat from a fire.

pow-wow—a council or meeting with or of Native Americans; a ceremony conducted by a shaman, as in the performance of healing or hunting rituals; a modern celebration of Indian traditions.

prospector—a person who explores an area for mineral deposits or oil.

pueblo—a Spanish word meaning “town,” “city,” or “village.” A pueblo is a village of apartment-style buildings usually made out of adobe (sunbaked bricks) or stone masonry; also refers to the people who live in the villages.

Pullman Sleeper or Silver Palace Cars—luxury railway cars; a railroad parlor car or sleeping car; also called Pullman car.

Q

quarry—an open pit where stone is obtained by digging, cutting, or blasting; surface digs for rocks or minerals; *verb*: to dig for rocks.

quicksilver—“cinnabar” or mercury used to help identify silver and gold.

R

rails or iron T-rail—long metal bars or railroad tracks; the T-shaped track became the standard for rails around the world. Some rails were made of wood.

rasp—a harsh, grating sound, hence a scraped “musical” instrument that makes a rasping sound. It is usually played over a bowl, gourd, or similar object to make the sound louder.

S

salting—planting rich ore samples in an unprofitable mine to cheat potential buyers of the mine.

seasonal round—the pattern of moving from one camp to another following the natural cycle of ripening food.

shaft—a hole dug either straight down, or sloping. A shaft usually serves as a mine’s main entrance and hoistway leading to the mine’s tunnels.

shaman—a member of some tribal societies who uses magic to heal the sick, to learn hidden things, and to control natural events.

shawl—a large piece of cloth worn around the shoulders, neck, or head.

site—a location, place. “Site” is a word used by archaeologists for places that prehistoric and historic people lived in or used. Sites are places where humans left things behind.

sluice—also “rockers”—a wooden trough for washing placer gold. Miners shoveled soil into the sluice, where water ran steadily and washed lighter materials away. Gold and other heavy particles sank to the bottom. Cleats, or riffles, caught the gold. Some small, portable sluices rocked back and forth like a cradle to hasten the “washing” of the gold.

soddie—a house made out of sod. Sod is a section of grass-covered surface soil held together by matted roots.

sourdough—an experienced prospector. The name came when experienced miners always saved some fermenting dough to use later to make sourdough bread or flatcakes. Opposite of greenhorn.

spikes—large, heavy iron nails. Spikes held the rails to the ties.

spurs—dead-end railroad lines usually for parking unused railway cars. Some spurs led to a mine or warehouse for loading freight on a railcar.

stamp mill—a device powered by water or steam that pounded ore into a fine powder under heavy iron stamps, rising and falling like hammers.

standard gauge—a railroad track having a width of four feet, eight inches; a railroad or railroad car built to standard gauge specification.

steam engine—engines that used a boiler built into their body to produce steam power that is used to drive the train.

steam locomotive—a railroad vehicle that contains a steam engine that moves it.

suitor—a man who courts a woman.

T

ties or crossties—thick, square pieces of wood laid crosswise to the track to hold the solid iron rails in place. Early ties were made of stone. The rails are held to the ties by metal spikes.

token—an object that stands for something else.

tradition—the passing down of ideas, ways of doing things or customs, and beliefs from one generation to the next; an idea, custom, or belief that is passed down by tradition.

trestles—railroad bridges

tumpline—a strap slung across the forehead or chest to support a load carried on the back.

W






washing—a process using water to “wash” the dirt, moving the lighter particles and leaving the heavier gold.

whistle stop—a town or station at which a train stops only if signaled.

wickiup—a frame hut covered with bark or brush matting.

widow-maker—a compressed-air drill used to make holes for dynamite in hard rock. Miners breathing in the fine dust created by early models of this drill often fell ill with a deadly lung disease called silicosis.

Appendix

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Appendix 1



Teacher Lesson Plans

Discovering Archaeology in Colorado

Lesson # 1

by Carolyn Goff

Grades: 4–7

Related Text: All

Colorado Portfolio

Subjects: Social studies, art

Skills: Knowledge, comprehension, application

Strategies: Drawing

Duration: 1–15 minutes

Class Size: Any

The Colorado Portfolio is an accumulation of activities to be completed by students throughout their participation in the *Discovering Archaeology in Colorado* unit. Each student has a portfolio or a folder to which students can add activities as they are completed. Keeping the portfolio helps students develop organizational skills and gives them the opportunity to keep a record of what they have learned. When the unit is completed, the portfolios can be used for assessment by the teacher and in student presentations.

Objective

Students will develop organizational skills to show a record of what they have learned by building a portfolio of completed activities from the *Discovering Archaeology in Colorado* unit.

Materials

Folders in various colors
8" × 11" white drawing paper

Hole punch—preferably three hole
Crayons and colored pencils

Setting The Stage

Tell students that the class is starting an exciting new unit, *Discovering Archaeology in Colorado*. Throughout the unit they will be completing activities which they can keep in a portfolio. When the unit is completed they can show their portfolio to their parents and tell about what they've learned.

Procedure

1. Pass out a folder and two pieces of drawing paper to each student.
2. Students will use one piece of drawing paper to design a cover page for their portfolio. The cover page should include their name, grade, title, and any drawings they want to include for decoration.
3. A second piece of drawing paper will be used for students to make an index of the work in the portfolio. This page should have "Index" written as a title. As students store work in the portfolio, they should list it on their index.
4. Have students punch holes in their cover and index pages and place them as the first and second pages in their portfolios.

Closure

Instruct students to store portfolios in a centralized place in the classroom so they may find them easily throughout the unit.

Evaluation

Although the completed portfolio can be used for a final assessment grade, it is beneficial to do periodic checks throughout the unit to reinforce organizational skills and work completion. Such feedback helps students understand performance expectations.

Discovering Archaeology in Colorado
Lesson #2
by Carolyn Goff

Grades: 4-7
Related Text: All

Colorado Map

Subjects: Social studies, art, science
Skills: Knowledge, comprehension, application
Strategies: Brainstorming, discussion, drawing
Duration: 30–40 minutes
Class size: Any

Standards

Grade 4: Geography: 4 - A; 8 - A, B, C.
 Science: C - 3.
Grades 5–7: Geography: 1 - B; 4 - A.
 Science: C - 1, 3, 4, 5.

Background Information

The Colorado Map will be used as a teaching aid throughout the *Discovering Archaeology in Colorado* unit. It is designed to help students identify the environmental regions of Colorado and locate the approximate areas of settlement for groups of people in Colorado history. The map can be referred to in many “Setting the Stage Activities” and can help students make relationships between geographic regions and their impacts on the lifeways of people. The Colorado Map will be the first assignment in the student portfolio after the Index.

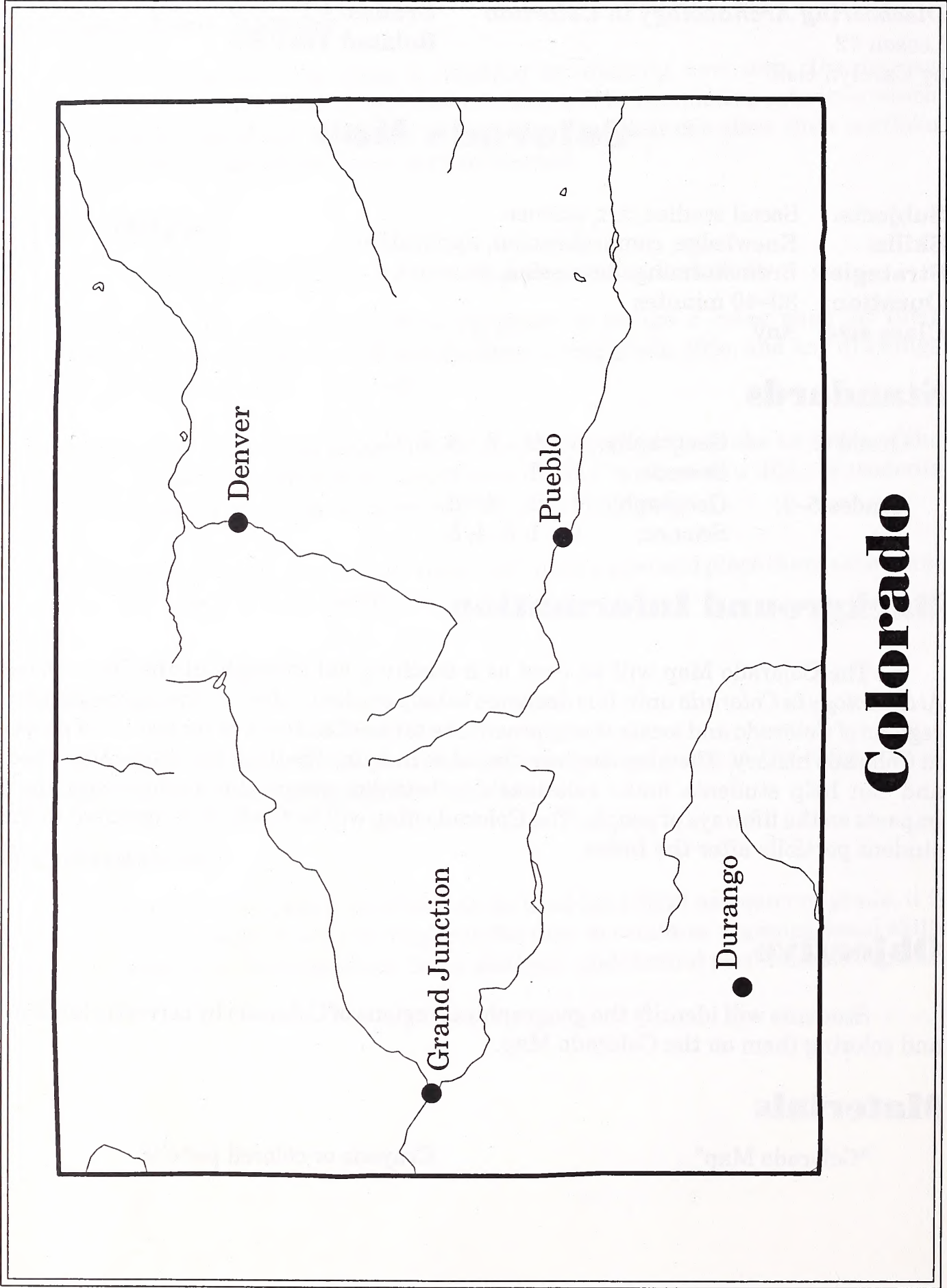
Objective

Students will identify the geographical regions of Colorado by correctly labeling and coloring them on the Colorado Map.

Materials

“Colorado Map”

Crayons or colored pencils



Setting The Stage

Have the class discuss the kinds of environments we see in Colorado. Have students share what they have observed in their travels around the state in regard to geographic land forms, plants, animals, and so on. List these things on the blackboard.

Procedure

1. Pass out the "Colorado Map." Point out that Colorado can be divided into three main regions. Have students label and color each region: plateaus, mountains, and plains.
2. Referring back to the list on the blackboard, have students tell what plants, animals, land forms, etc., they've observed in each region.
 - Plains: flat-grasslands, deciduous trees (*cottonwood*, *willow*), short shrubs, bison, geese, and ducks.
 - Mountains: pinon-juniper, mountain shrub, ponderosa pine, Douglas fir and spruce: marmots, elk, mountain lions, bighorn sheep; Steller's jay, and hummingbirds.
 - Plateau: mountain shrub, greasewood, saltbush, sagebrush, mule deer, coyote, hawks, eagles, and owls.

Note that the vegetation and animals in both mountain and plateau regions can be found in both regions. There is not a clear line of demarcation between each.

3. Conduct a discussion about how the environments in each of the regions can affect the way people live in these regions. Consider how the environment would affect things like housing, food, clothing, work, play, and so on.

Closure

- Ask the students to summarize how the environment affects how people live.
- Explain to students that as they study about archaeology in Colorado, they will be looking at ways the environment affects the lifeways of people.
- Instruct students to list their map as the first assignment in their portfolio and file it behind the Index.

Evaluation

Check portfolio for completion of map assignment.

(Reference: Cassells, S. E., "Colorado's Environment," *The Archaeology of Colorado*, Chapter 3, Johnson Books, Boulder, Co., 1994.)

Discovering Archaeology in Colorado

Lesson #3

by Carolyn Goff

Grades: 4–7

Related Text: All

Intrigue: Lesson 1

What We Can Learn From Our Past

Subjects: Social studies, art

Skills: Knowledge, comprehension, analysis, evaluation

Strategies: Group work, brainstorming.

Duration: Two class periods

Class size: Any

Standards

Grade 4:	History	1 - A; 2 - A, B; 3 - A, C; 7 - A; 8 - A
	Geography	4 - B; 10 - B; 12 - A, B, C; 14 - A; 15 - B, C.
Grades 5–7:	History:	1 - A.

Background Information

This lesson is designed to set the stage for studying Colorado archaeology. Its focus is to teach students what they can learn from studying Colorado's past. Many of the concepts and ideas presented in this lesson are adapted from Lesson #1, "Why is the Past Important," found in *Intrigue of the Past: A Teacher's Guide for Fourth Through Seventh Grades*. Review of Lesson #1 will be helpful in providing background for this lesson.

Objectives

- Students will identify and list Colorado archaeological artifacts.
- Students will explain how each artifact tells about people who lived in the state in the past.
- Students will make a collage of modern day artifacts found in Colorado; they will be able to identify what factors have changed the state's culture over the years.

Materials

Several items from your teacher's desk
Current magazines which can be cut up
Glue and scissors

Poster size tagboard
Pencils, felt pens, crayons

Historical pictures of Colorado from books, magazines, posters, etc., showing people and artifacts from 100 years ago or more. Such pictures can be obtained with the help of your school or public library, and from historical societies in your area.

Key Words

archaeology archaeological site artifact attribute

Setting The Stage

1. Show the objects selected from your teacher's desk to the class. Have students tell how these objects give them clues about what life in a classroom is like and how teachers do their jobs. List the student responses on the blackboard.
2. After listing the responses, list the key words on the board. Ask the students to help you define the words. Explain that the objects from your desk are artifacts (*objects that are made or used by humans*), and that an important attribute of artifacts is that they can give use clues about people and how they live.
3. Ask students to relate the key words to the list the students have made about the artifacts from your desk and what they tell us about life in the modern classroom.

Procedure

1. Have students work in groups of three to four. Give each group two or more historical pictures.
2. Instruct the groups to identify and list all the artifacts shown in the pictures. Then next to each artifact brainstorm ideas about what clues the artifact gives us about the life of the people in that time and place.
3. When the lists are completed, have each group share their list and tell what they have learned about the people in the pictures based on the clues gained from the artifacts.
4. When the presentations are complete conduct a discussion on the following questions.
 - How did the clues gained from the artifacts in these pictures help us to understand Colorado's past?
 - How can this help us understand life in Colorado today?

- Why is such understanding important? *(We can learn how the state culture has changed and why; how past forces make Colorado's culture different from other states; gain insights about environmental changes and how they effect quality of life in the state; observe patterns that will help plan for the future.)*
5. Activity: Distribute current magazines and art supplies to groups. Have the students cut out artifacts appearing in the magazines that tell about life in Colorado today. Have each group arrange these artifacts on tagboard to create a "Collage of Modern Life in Colorado." Attach their lists of artifacts from the historical pictures to the collages, and put them on display in the classroom.
 6. Ask each group to compare the modern artifacts with the lists of historical artifacts made by the groups.
 7. Whole class discussion: Have each group tell how life in Colorado today differs from life in the past. Identify what factors influenced the changes. *(Different groups of people, changes in technology and communication, migration patterns, and so on.)*

Closure

Whole class discussion: Ask the students to summarize what they have learned about artifacts and how they can help us understand how people have lived in the past and today. Point out that the process of studying artifacts to learn about ancient people is called **archaeology**. Archaeology is studied in places that have been occupied by humans. These places are known as **archaeological sites**. It is important to preserve our archaeological and historical sites so that we have the information we need to understand Colorado's culture in the past so that we can plan our future.

Evaluation

Use the collages and lists as sources of evaluation.

Extension

Using their collages and lists for reference, have students imagine that they have the opportunity to travel back in time to some place in Colorado 100 years ago. Have them write a story about what they see and do. This scenario can be reversed to have students imagine they are a resident of Colorado from 100 years ago thrust into today's culture. How would they adjust to the modern world; what would they see and do?

Discovering Archaeology in Colorado

Lesson #4

Grades: 4–7**Related chapter:** All**Intrigue:** Lesson 2 & 3

Looking At Culture

Subjects: Social studies, language arts, science**Skills:** Knowledge, comprehension, analysis**Strategies:** Brainstorming, categorizing, discussion, working in pairs**Duration:** 30–45 minutes**Class size:** Any

Standards

Grade 4: History: 2 - B; 3 - A; 7 - A; 8 - A.
 Geography: 4 - B; 10 - A; 14 - A; 15 - A.
 Science: C - 3; F - 1, 3.

Grades 5–7: History: 1 - A.
 Geography: 4 - B; 6 - A; 10 - A, B; 15 - B.
 Science: C - 1, 3, 4, 5.

Background Information

This lesson teaches students a strategy for studying culture. It is adapted from the concepts and ideas presented in *Intrigue of the Past*, Lesson #2, “Culture Everywhere.” Review of this chapter will help in the presentation of this lesson.

Objectives

- Students will identify four critical elements of culture.
- Students will list the elements of culture as a strategy for studying the artifacts of culture by using the “Comparing Cultures” worksheet.

Materials

“Comparing Cultures” worksheet

Collages and lists from *Discovering Archaeology in Colorado*, Lesson #3

Key Words

culture

Setting The Stage

Refer to collages and lists from Lesson #3, “What We Can Learn From Our Past.” Call on students to tell what artifacts are and how they can tell us about our past. (*They are clues about the lifeways of people from the past.*) Have students summarize how understanding the ways people lived in the past helps us to understand how they live today.

Procedure

1. Introduce the concept of culture from *Intrigue of the Past: A Teacher’s Activity Guide for Fourth Through Seventh Grades*, Lesson 2. (*The way people live; includes things like customs, tradition, religion, government, how they make a living, education and so on*). Remind students that culture can shape how people think, behave, and how they do things. One way to study culture is to look at how the lifeways of people meet their basic needs. We can look at their artifacts to gain clues about their lifeways and culture.
2. Have students identify what basic human needs are (*those things humans need for survival*). Brainstorm the basic needs all human beings have (*food and water, protection, family, knowledge, and so on*).
3. Examining their collages from Lesson #3, have students tell how the artifacts on the collages meet the basic needs of modern Coloradans. As a group, have the class identify how the artifacts can be categorized.
4. Pass out a “Comparing Cultures” worksheet to each student. Working in pairs, have them fill out categories of basic needs in the left hand column of their worksheets.
 - Have each pair brainstorm ways modern Coloradans meet their basic needs in each category.
 - Have each pair label the second column from the left (*next to Basic Needs*), “Modern Colorado.” Instruct the students to list ways modern Coloradans meet their basic needs in each category space in the second column.
 - Also have them list the artifacts they observed as evidence for their conclusion. Example: The basic need is food; fast food is listed as a way this need is met and a hamburger is listed next to fast food as the evidence.
5. When worksheets are completed, have students share their observations about how modern Coloradans meet their basic needs. Questions for discussion:

- What kinds of things influence how cultures develop? (*Environment, technology, government, etc.*)
- Why is understanding how cultures develop important? (*It gives understanding about how the lifeways of people develop. We can also see how cultures are alike and different.*)
- If most cultures develop around the satisfaction of basic needs, can we say that some cultures are better than others? (*No, because each culture is influenced by differing factors and must adapt to those factors in the way best to meet basic needs.*)

Closure

- Have students tell how they can use the strategy on the “Comparing Cultures” worksheet to understand the ancient and historic cultures in Colorado. (*Classify artifacts in ways that show people meet their basic needs.*)
- Instruct students to list the “Comparing Cultures” worksheet after the “Colorado Map” on their portfolio index and file in that spot.

Evaluation

Check portfolios for completion of the first two columns of the “Comparing Cultures” worksheet.

Extension

Identify unusual environments (*i.e., outer space, the bottom of the sea, top of Mount Everest*). Write an essay telling how people would meet their basic needs in such environments and how it would effect the development of their cultures.

Comparing Cultures Worksheet

Name

Basic Needs				

Discovering Archaeology in Colorado

Lesson #5

by Carolyn Goff

Grades: 4 - 7**Related text:** Chapter 1**Intrigue:** Lessons 2, 3**The Paleo-Indians****Subjects:** Social studies, reading, art, science**Skills:** Comprehension, application, analysis**Strategies:** Discussion, categorizing, brainstorming**Duration:** 60–75 minutes**Class Size:** Any**Standards**

Grade 4:	History:	1 - A, B; 2 - B; 3 - A, C; 5 - A, 6 - A, 7 - A; 8 - A.
	Geography:	3 - C, D; 4 - A, B, C; 6 - A, B; 9 - A, B; 10 - A, B, C; 11 - A, B, C; 12 - A, B, C; 14 - A, B, C; 15 - A, B, C; 16 - C; 18 - A, B, C.
	Science:	E - 3; F - 1, 2, 3, 4.
Grades 5–7:	History:	1 - A.
	Geography:	9 - C; 15 - A, B, C; 17 - A, B, C.
	Science:	C - 1, 3, 4, 5.

Objectives

- Students will identify characteristics of Paleo-Indian life using the “Comparing Cultures” worksheet.
- Students will demonstrate understanding of the Paleo-Indian culture by drawing a picture showing Paleo-Indians involved in activities which depict their lifeways.

Materials

“Comparing Cultures” Worksheet
8” × 11” drawing paper

World map
Drawing implements

Key Words

archaeologist
ceremony

megafauna
quarry

shaman
point

Background Information

Archaeologists believe that the first people migrated to North America around 12,000 years ago. They called these first people Paleo (ancient)-Indians. They probably migrated across the Bering Land Bridge which emerged when the Bering Strait froze over during the last Ice Age (Pleistocene). Some archaeologists believe the Paleo-Indians's migration was motivated by the migrations of the megafauna (large, extinct Ice Age animals) they hunted. These animals included mammoths, camels, giant ground sloths, and the Ice Age horse.

Recently some archaeologists have begun to argue that in addition to the migration across the Bering Land Bridge, early people came to the Americas from Europe. The best evidence is the remarkable similarities between several types of stone points and tools.

Archaeologists do not know much about Paleo-Indians because not many of their artifacts are found. The most common artifacts associated with them are Clovis and Folsom spear points. Sites that are believed to be Paleo-Indian have been found in the plateau, mountain, and plains regions of Colorado. In fact, Colorado is home to several very important Paleo-Indian sites, such as the Jones-Miller Site which is depicted in this story.

Setting The Stage

Have students refer to their "Comparing Cultures" worksheets from *Discovering Archaeology in Colorado*, Lesson #4 in their portfolios. Review the factors we look at when we study the culture and lifeways of people. (*How they meet their basic needs; the factors that influence their culture, such as environment, resources, and so on.*) Ask the students how these factors help us to understand their lifeways and culture?

Procedure

1. Introduce the Paleo-Indians by sharing background information with the class. Use the world map to show the location of the Bering Land Bridge and to demonstrate how it is believed people migrated to North America. Discuss the impact of megafauna on their lifeways and culture.
2. Distribute Chapter 1. Introduce Keet as the main character. Have the class read the chapter by taking turns reading aloud. As they read, remind students to focus on the factors that affect Keet's lifeways and culture (*climate/environment, megafauna, other food sources, etc.*). Focus their attention on ways these factors influenced the lifeways and culture of Keet's group (*housing, clothing, family roles, jobs, rituals/Shaman (holy man), tools, etc.*).

3. After the chapter has been read, instruct students to write Paleo-Indians as the heading for the third column (next to Modern Coloradans) on their “Comparing Cultures” worksheet. Have students work in pairs to help each other fill in their charts about ways Keet’s people met their basic needs. Where possible have students identify the artifacts that support their conclusions about the lifeways of this culture.
4. When the charts are completed, discuss the following:
 - How did hunting ancient buffalo shape the lifeways of Keet’s culture?
 - What impact did the environment and climate have on this culture? (*Migration patterns, jobs of the group members, clothing, food, tools, ceremonies, hunting strategies, food storage*).
5. Distribute drawing paper to students. Instruct each student to illustrate the buffalo hunt. Encourage them to include as many aspects as they can about Paleo-Indian culture and the factors that influenced it in their drawings (*environment/climate, flora and fauna, jobs, tools, etc.*).
6. Have students show their drawings to the class and tell how the drawings exemplify aspects of Paleo-Indian culture.

Closure

- Ask the students how the lack of Paleo-Indian artifacts might affect our ability to learn about their culture.
- Keeping this in mind, why is it important to preserve archaeological sites?
- At the conclusion of the discussion, have students file their “Comparing Cultures” worksheet and drawing in their portfolios and update their portfolio index.

Evaluation

Check portfolios for completion of third column of “Comparing Cultures” worksheet and the drawing.

Extensions

- Have students continue Keet’s story by writing another chapter telling what happens after the hunt. Does the group migrate to another spot? Do they spend several days preparing and storing meat? Divide students into groups to write different chapters about what happens next. Read the stories to the class.

- Research ancient buffalo (bison) and learn about their characteristics. Compare them to the buffalo alive today. What did they eat? Where did they live?
- Make a diorama either of buffalo and life on the plains, or one of the buffalo corral described by Keet.
- Habitat Hunt. Do the following to learn about your outdoor habitat and compare it to what you know about Keet's habitat.

Animal Life. Collect signs of animals or animal activity (*for example, feathers, nibbled-on acorns*) and put each one into a plastic bag. Don't forget to include any signs of human activity, too. Describe any signs of animal activity that cannot be collected (*for example, footprints, burrows, ant hills, etc.*). Identify, describe, or sketch any live creatures found on or in your plot.

Plant Life. Bring sample leaves and grasses back with you for use in the classroom. Be sure to find out if there are poison ivy or other dangerous plants in your area before you begin this activity. How many trees are in the area? Identify them if you can. Describe them and draw a leaf from each. How many bushes are in the area? Identify them if you can, describe them and draw a leaf from each one. How many different varieties of other plants are in the area? Identify, if you can, the five most common ones. Also, describe them and draw a leaf of each. If you were to describe this habitat the same way that Keet describes his, how would you do it?

Soil. Use a small shovel or trowel to dig up a small amount of soil. Feel it in your hands and record how it looks. Does it contain lots of sand or small rocks? If you mix a small amount of water with it does it feel like clay? What color is it? Do plants grow well in it? How might the soil affect your food sources?

Water. Is there a natural source of water nearby? How far would you have to go to get to water?

Shelter space. Is there any place nearby that could be used for shelter? If not, are there any natural materials from which to make a shelter?

When you have completed these activities compare and contrast your habitat with Keet's habitat. Do you think a hunter-gatherer like Keet could live in your habitat?

- Create a Shelter. Based on what you have read about Keet's time period, what do you think the shelters were like? How would you build them and what do you think you would use? Remember what the people used for tools and that stones usually were found in the hills and were not available everywhere on the plains. What did Keet say about the location of the camp? Why was it chosen? Where do you think would be the best place to build a shelter on the open plains? What do you need to think about besides how you are going to build it? (*Closeness to water, shelter from*

wind/weather, protection from wild animals, availability of food, etc.). In what direction do you want your shelter to face? Why? Think about light and warmth. If your shelter faces the east, you will be facing the sun in the morning, but will be in shade the rest of the day. Where do the cold winds come from?

Discovering Archaeology in Colorado

Lesson #6

by Carolyn Goff

Grades: 4-7

Related Chapter: 2

Intrigue: Lessons 2, 3

The Archaic

Subjects: Social studies, reading, science

Skills: Comprehension, application, analysis

Strategies: Working in pairs, brainstorming, categorizing, discussion

Duration: 50–60 minutes

Class size: Any

Standards

Grade 4:	History:	1 - A, B; 2 - B; 3 - A, C; 5 - A, 6 - A, 7 - A, 8 - A.
	Geography:	3 - C, D; 4 - A, B, C; 6 - A, B; 9 - A, B; 10 - A, B, C; 11 - A, B, C; 12 - A, B, C; 14 - A, B, C; 15 - A, B, C, 16 - C; 18 - A, B, C.
	Science:	E - 3; F - 1, 2, 3, 4.
Grades 5–7:	History:	1 - A.
	Geography:	9 - A, B, C; 15 - A, B, C; 17 - A, B, C.
	Science:	C - 1, 3, 4, 5.

Objective

- Students will list artifacts from the Archaic period and explain what the artifacts reveal about the culture of this group of ancient people.
- Students will mark the locations of Paleo-Indian and Archaic sites on the “Colorado Map.”

Materials

“Comparing Cultures” worksheet

Writing paper

“Colorado Map”

Key Words

Archaic

nomadic

Background Information

This lesson is designed to teach students about Archaic culture in Colorado. The people of the Archaic culture lived in Colorado from 8,000 to 1,500 years ago. During this time, the climate of Colorado became warmer and drier. The Archaic people lived in a nomadic life-style moving from area to area harvesting plants, hunting and fishing. These people were adept at using things from the environment to meet their basic needs. Artifacts which identify and define this group of people and their lifeways include baskets, sandals, nets, snares, stone tools, darts, and atlatls.

Setting The Stage

- Review the factors that influenced the lifeways and culture of the Paleo-Indians (*environment, resources, and so on*).
- Have students refer to their copies of the “Colorado Map” in their portfolios. Show students the locations of Paleo-Indian archaeological sites in Colorado and have them mark the locations on their maps.
- Introduce the Archaic cultures by presenting the background information about this period.
- Show students the location of Archaic sites in Colorado and instruct them to mark those locations on their maps.
- Compare the patterns of Paleo-Indian sites to Archaic sites. How are the patterns similar and different? What are some factors that might account for the similarities and differences?

Procedure

1. Have students refer to their “Comparing Cultures” worksheet in their portfolios. As a class, have them take turns reading the chapter about the Archaic People. As the chapter is read, have the students use the categories on their “Comparing Cultures” worksheet as guides for taking notes about the artifacts and lifeways the Archaic culture.
2. Ask the students how the warming climate of this time affected the lifeways of the people (*some animals became extinct; greater variety of food; changes in hunting and gathering practices; changes in migration patterns*).
3. When the class has finished reading the story, have students work in pairs to list the items used by Tara-tana, Pana-toosi and their family to meet their basic needs.

- In what form would these items appear today as artifacts of this culture? (*Seeds, basket and sandal fragments, bone and stone tools, etc.*)
 - What would such artifacts tell us about the lifeways of the Archaic people?
4. Break the class into pairs. Based on what students have learned about the Archaic culture from reading the story and by analyzing the culture's artifacts, have each pair of students complete their "Comparing Cultures" worksheets. They should relate the artifacts to the categories listed.
 5. When the worksheets are completed, have each pair of students present what they learned about the culture of the Archaic people by studying their artifacts.

Closure

- Discuss how looting and vandalizing Archaic sites would affect our understanding of this culture. Review why it is important to preserve archaeological sites.
- Have students file their "Comparing Cultures" worksheet and "Colorado Map" in their portfolios.

Evaluation

Use student presentations of their "Comparing Cultures" worksheet as a source of evaluation. Do a portfolio check for completion for the fourth column on the "Comparing Cultures" worksheet, page 2, and to examine the accuracy of Paleo and Archaic sites located on Colorado Map.

Extensions

- Make an Archaic Survival Guide. The guide should include drawings and descriptions of all the items an individual would need to survive in the Archaic Period.
- Have students pretend that they are time travelers who have traveled back to the Archaic Period. Write a letter from that time period to the present day describing experiences in the Archaic world.

Discovering Archaeology in Colorado

Lesson #7

by Carolyn Goff

Grades: 4–7**Related Chapter:** 3**Intrigue:** Lessons 2, 3, 6

The Ancient Puebloans

Subjects: Social studies, reading, language arts**Skills:** Knowledge, comprehension, analysis, evaluation**Strategies:** Brainstorming, cooperative groups**Duration:** 1–2 class periods**Class Size:** any

Standards

- Grade 4: History: 1 - A, B; 2 - B; 3 - A, C; 5 - A, 6 - A, 7 - A; 8 - A.
- Geography: 3 - C, D; 4 - A, B, C; 6 - A, B; 9 - A, B; 10 - A, B, C; 11 - A, B, C; 12 - A, B, C; 14 - A, B, C; 15 - A, B, C; 16 - C; 18 - A, B, C.
- Science: E - 3; F - 1, 2, 3, 4.
- Grades 5–7: History: 1 - A.
- Geography: 9 - A, B; 15 - A, B, C.
- Science: C - 1, 3, 4, 5.

Objective

- Students will list the artifacts and lifeways of the Ancestral Puebloans in “Povi of the Ancient Pueblo People.”
- Students will use this information to date the time period in which the story takes place.
- Students will mark the location of Ancestral Puebloan sites in Colorado.

Materials

“Colorado Map”

Writing paper

Blackboard and chalk

“Comparing Cultures” worksheet

pencils

Background Information

The Ancestral Puebloans lived in the region of the Four Corners from 2,500–700 years ago. Their sites have been well preserved, and many artifacts have been found

that give us important clues about their culture. These artifacts are also used to help identify important time periods in Ancestral Puebloan culture.

Basketmaker II (BM II) is the oldest time period. It occurred from approximately 2,500–1,500 years ago. The people of this time period were hunters and gatherers. The artifacts from this time are characterized by gray pottery and beautiful baskets. Other artifacts from this time period include woven sandals and mats, cradle boards, clothing made from fur and feathers, and jewelry made from bone and stone.

The Basketmaker III (BM III) period occurred from 1,500–1,300 years ago. These people grew corn, beans and squash. They often used gourds for storage and water. Plain gray and black painted on gray pottery, stone tools like manos and metates, and bows and arrows are other artifacts associated with this time period.

The Pueblo I (P I) time period occurred approximately 1,200 years ago. These people built above ground structures of poles and mud, as well as underground circular structures called kivas. Some groups of Ancestral Pueblos from this time period made reddish orange pottery decorated with red and black designs in addition to gray wares and black-on-white pottery.

The Pueblo II (P II) period lasted from 1,100–900 years ago. Their artifacts include white pottery decorated with black designs (called black-on-white). Ancestral Pueblos living in different regions of the Four Corners made different styles of this pottery. The structures are similar to Pueblo I structures with important exception that they were constructed of stone masonry. All were mesa top dwellings.

Pueblo III (P III) is the final period in Colorado which lasted from 900–700 years ago. In addition to pottery, artifacts of this period include woven cotton which was used for clothing, and jewelry made from such materials as turquoise, bone, shell and clay. The masonry structures were well built, except that they did not have foundations. By the end of the time period the people had moved to canyon heads and into cliff alcoves, always near water sources.

Setting The Stage

Have students refer to their “Colorado Maps” to review the location of Archaic and Fremont sites in Colorado. Introduce the Ancestral Puebloan culture by sharing the background information with students. When discussing this information,

- List the Ancestral Puebloan time periods and their corresponding artifacts on the blackboard.
- Show students where the Ancestral Puebloan sites are located in Colorado and have them mark those sites on their “Colorado Maps.”

Procedure

1. Have students work in groups of three to four. Distribute copies of “Povi of the Ancient Pueblo People” to each group. Instruct students to take turns reading the story. As they read, they should list all the artifacts and lifeways that appear in the story.
2. When they have completed reading the story and their lists, have students compare them to the background information about the Ancestral Puebloans listed on the blackboard. Have the students use this information to identify the time period in which they think this story takes place.
3. Have each group share their conclusion about the story’s time period with the class. They should tell what evidence they used from their lists to reach their conclusion.

Closure

- Ask the students to discuss how artifacts help us to date and discover the lifeways of ancient cultures. Emphasize how the loss of artifacts negatively affects our ability to understand these ancient cultures.
- Have the students file their lists in their portfolios and update their index.

Evaluation

Check portfolios for completed lists and use them as sources for evaluation.

Extensions

- Research additional information about the lifeways of the Ancestral Puebloans in different time periods. Use the “Comparing Cultures” worksheet to identify ways the people met their basic needs. How do the lifeways of Ancestral Puebloans during the different time periods compare? How are the time periods alike and different? What factors may have affected the culture over time? How does the Ancestral Puebloan culture compare to Paleo-Indian, Archaic and Fremont cultures?
- Write a story which takes place in one of the Ancestral Puebloan time periods. Incorporate the artifacts and lifeways from the time period into your story. When the stories are completed, read it to your classmates to see if they can identify the time period in which it takes place.

Discovering Archaeology in Colorado

Lesson #8

by Carolyn Goff

Grades: 4–7

Related Chapter: 4

Intrigue: Lessons 2, 3, 4, 6

The Fremont Culture

Subjects: Social studies, reading, art

Skills: Comprehension, application, analysis, synthesis, map reading

Strategies: Cooperative groups, brainstorming

Duration: 50–60 minutes

Class size: Any

Standards

Grade 4:	History:	1 - A, B; 2 - B; 3 - A, C; 5 - A, 6 - A; 7 - A; 8 - A.
	Geography:	3 - C, D; 4 - A, B, C; 6 - A, B; 9 - A, B; 10 - A, B, C; 11 - A, B, C; 12 - A, B, C; 14 - A, B, C; 15 - A, B, C; 16 - C; 18 - A, B, C.
	Science:	E - 3; F - 1, 2, 3, 4.
Grades 5–7:	History:	1 - A.
	Geography:	9 - A, B, C; 15 - A, B, C; 17 - A, B.
	Science:	C - 1, 3, 4, 5.

Objectives

- Students will list the characteristics of the Fremont Culture.
- Students will mark the location of Fremont sites on their “Colorado Maps.”
- Students will create a rock art panel depicting Fremont lifeways.

Materials

“Comparing Cultures” worksheet
4 foot lengths of white butcher paper

“Colorado Map”
Drawing implements

Background Information

Members of the Fremont Culture lived in Colorado from 1,600 to 750 years ago. They were part-time farmers as well as hunters and gatherers. They lived in pit houses and made gray pottery. Their diet consisted of corn, beans and squash which they grew themselves. They hunted with bows and arrows. They were known for their fine baskets and for making impressive displays of rock art (*figures and symbols pecked or painted*

on rock). Fremont sites are found in Western Colorado, Utah, and northeastern Nevada.

Setting The Stage

- Have students use their “Colorado Maps” to review the location of Paleo-Indian, Archaic, and Ancestral Puebloan sites in Colorado.
- Ask students to summarize the characteristics of each culture and review the factors that affected their lifeways. Emphasize that they will be considering the same factors when learning about the Fremont Culture.

Procedure

1. Introduce the Fremont Culture by presenting the background information about it. Using the “Colorado Map” as reference, show students where Fremont sites are located in Colorado. Have students locate and mark these sites on their maps.
2. Assign students to groups of three to four. Give each student a copy of Chapter 4. Have them take turns reading it. Direct students to look for aspects of the Fremont Culture by observing Little Hawk’s experience as he participates in Walk Away Day.
3. Instruct each group to identify and list aspects of the culture as the story is read. They should take special note of the roles of tribal members, the purpose of ceremonies, and the artifacts used both in ceremonies and as part of daily life.
4. Have the students determine the purpose of various artifacts by evaluating them within the context they’re used in the story (*i.e., atlatl, shield, spears, dew claws, burden basket, metate, rock wall, and so on*).
5. Have the groups describe other factors in Fremont Culture using the categories of basic needs on the “Comparing Cultures” worksheet. Have each group brainstorm the ways the Fremont people met their basic needs. Each group will use their ideas to fill out their worksheets. (*If their “Comparing Cultures” worksheet is filled, have each student begin a new sheet by labeling the categories of basic needs, then head the second column on the new worksheet as the Fremont Culture.*)
6. When students have completed their brainstorming and filled out their worksheet, have each group share what they’ve learned about the Fremont Culture.
7. Conduct a class discussion about the importance of the Great Spirit Rock Wall. What might the purpose of such a wall be? (*Maintain tradition, provide information or education.*)

8. After determining possible purposes for the wall, have each cooperative group create their own rock art wall on a four foot length of butcher paper. The purpose of their rock art panels may vary, but all should convey information in some way.
9. When all panels are completed, have each group present their panel to the class. Have students determine each panel's meaning and purpose.

Closure

Discuss the loss of rock art as a result of vandalism.

- Identify types of rock art vandalism (*graffiti, theft, defacement*).
- Have students suggest ways that rock art can be protected from destruction.
- Have students file their “Comparing Cultures” worksheets in their portfolios and update indexes. Put the rock art panels on display in the classroom.

Evaluation

Do a portfolio check to review completion of the “Comparing Cultures” worksheet. Use the worksheet and the rock art panels for sources of evaluation.

Extensions

- Write a story using rock art symbols. Include a written translation of your story.
- Research rock art symbols in the Southwest. Make a dictionary of rock symbols that identifies possible meanings and the culture with which the symbol is associated.

Discovering Archaeology in Colorado

Lesson #9

by Carolyn Goff

Grades: 4–7**Related Chapter:** 5**Intrigue:** Lessons 2, 3

The Ute Indians In Colorado

Subjects: Social studies, language arts**Skills:** Knowledge, comprehension, application, analysis, synthesis**Strategies:** Discussion, writing**Duration:** 50–60 minutes**Class Size:** Any

Standards

Grade 4:	History:	1 - A, B; 2 - B; 3 - A, C; 5 - A; 6 - A; 7 - A; 8 - A.
	Geography:	3 - C, D; 4 - A, B, C; 6 - A, B; 9 - A, B; 10 - A, B, C; 11 - A, B, C; 12 - A, B, C; 14 - A, B, C; 16 - C; 18 - A, B, C.
	Science:	E - 3; F - 1, 2, 3, 4.
Grades 5–7:	History:	1 - A.
	Geography:	9 - A, B, C; 15 - A, B, C; 17 - A, B, C.
	Science:	C - 1, 3, 4, 5.

Objectives

- Students will list traditions of Ute culture as exemplified by the Bear Dance.
- Students will write a letter telling what they've learned about Ute culture and traditions based on their observations of the Bear Dance.
- Students will mark Ute settlement areas on the "Colorado Map."

Materials

Blackboard
"Colorado Map"

"Comparing Cultures" worksheet
Pencils and writing paper

Background Information

The Utes are the earliest historically documented Indian group in Western Colorado. Reference to them was made by Spanish explorers in 1626. Pottery from this culture is generally simple in design. Rock drawings created by the Utes include horses, which indicates their involvement with these animals in post-Spanish times. Some

people believe that the Utes were instrumental in spreading the use of horses to native groups to the north of their settlement areas.

Setting The Stage

- Have students refer to the settlement patterns of earlier groups of people in Colorado as shown on their “Colorado Map.”
- Present the background information on the Utes. Have students mark the location of Ute settlement on their maps.
- Discuss how the settlement patterns of the Utes are similar or different from earlier groups.

Procedure

1. Have students define what a tradition is (*handing down the customs and practices of a culture from one generation to the next*). Discuss why traditions are an important part of culture (*preservation of lifeways, education*). Explain that traditions that are passed from one generation to the next through word of mouth are part of what is called an oral tradition.
2. As a class, have students take turns reading aloud Chapter 5. Explain that many Ute traditions are exemplified in the Bear Dance. As students read, have them identify traditions associated with the Ute culture as exemplified through the Bear Dance. Determine what the purpose of the dance might be (*affiliation, meeting future mate, trade, etc.*). As students volunteer ideas, list them on the blackboard.
3. Discuss what can be learned about the Ute culture by observing the Bear Dance. How can understanding their traditions help us to understand ancient cultures?
4. Working in pairs, have students write a letter to someone describing their experience at the Bear Dance. Direct students to tell what they learned about Ute culture by observing the dance. Refer them to their comments listed on the blackboard for ideas to include in their letters.

Closure

- Summarize Ute traditions and culture by having students read their letters to the class.
- Reinforce the concept that understanding Native American traditions can help us interpret ancient culture.

- Have students file their letters in their portfolios and update their indexes.

Evaluation

Do a portfolio check and use the letters as sources for evaluation.

Extensions

- Complete the “Comparing Cultures” worksheet. Compare how the Utes met their basic needs as compared to other groups studied. What factors influenced this culture? How are they similar or different from other cultures studied.
- Draw pictures showing various aspects of the Bear Dance. Write short descriptions about each picture.

Discovering Archaeology in Colorado

Lesson #10

by Carolyn Goff

Grades: 4–7

Related Chapter: 6

The Plains Indians

Subjects: Social studies, language arts, reading, art

Skills: Comprehension, analysis, evaluation

Strategies: Discussion, classifying, working in pairs.

Duration: Three class periods

Class Size: Any

Standards

Grade 4:	History:	1 - A, B; 2 - B; 3 - A, C; 5 - A; 6 - A; 7 - A; 8 - A
	Geography:	3 - C, D; 4 - A, B, C; 6 - A, B; 9 - A, B, C; 10 - A, B, C; 11 - A, B, C; 12 - A, B, C; 14 - A, B, C; 16 - C; 18 - A, B, C
	Science:	E - 3; F - 1, 2, 3, 4
Grades 5–7:	History:	1 - A.
	Geography:	9 - A, B, C; 15 - A, B, C; M17 - A, B, C.
	Science:	C - 1, 3, 4, 5.

Objectives

- Students will classify and list the characteristics of Cheyenne culture.
- Students will write an essay comparing the Cheyenne culture to an earlier native culture found in Colorado.
- Students will mark the Plains-Indians settlement area on the “Colorado Map.”

Materials

“Comparing Cultures” worksheet
“Colorado Map”

Blackboard and chalk
Writing paper and pencils

Background Information

The Cheyenne are one of many tribes that made up a larger group of Native

Americans known as the Plains Indians. They settled in eastern Colorado from the early to the late 1800s. They were known for being skillful, mounted hunters, and they participated in trade with Anglo settlers.

Setting The Stage

- Review the settlement patterns of earlier groups of Native Americans in Colorado. Review the factors that may have affected these settlement patterns.
- Present the background information on the Cheyenne and have students mark the location of the settlement area for the Plains Indians on the “Colorado Map.”
- Discuss what factors may have influenced the settlement pattern of the Cheyenne by examining how their pattern is similar or different from earlier cultures.

Procedure

1. Review the role of tradition in culture (*handing down the customs and practices of a culture from one generation to the next*). Discuss how traditions reflect the lifeways of cultures (*preservation of social order and lifeways, helps to educate younger generations*). Note that the lifeways of a culture can be observed through the traditions associated with important occasions like birth, marriage, death, and so on.
2. Distribute Chapter 6 to the class. Explain that many lifeways of the Cheyenne are exemplified in the marriage traditions described in this chapter. As the students read they are to classify the customs and practices of the Cheyenne culture in three categories. (*List categories on the blackboard.*)
 - Lifeways: How the group meets its basic needs on a daily basis (*food shelter, tools, child care, and so on*).
 - Role of Family: The customs and practices related to sex and age in the family structure. Observe how the families interact when agreeing on a marriage contract.
 - Marriage: The sequence of events that comprise the marriage ritual (*suitors send message and goods, bride's parents must give permission for marriage, family consults on the suitability of the match, and so on*).
3. When the chapter has been read and all three columns completed discuss:
 - How traditions can be a reflection of the lifeways of a people. What influence does one have on the other?
 - What the purpose of the marriage traditions are. How do these traditions help to maintain the culture? (*Maintain social order and help to educate younger generations.*)

4. Working in pairs, have students refer to their “Comparing Cultures” worksheet. Have them choose one other culture studied during *Discovering Archaeology in Colorado* and write an essay comparing how that culture is similar to or different from the Cheyenne. In addition to noting similarities and differences, have students include a summary of the factors which influenced the development of the lifeways and traditions of each group.

Closure

Have each pair of students present their papers to the class. During the student presentations, emphasize the factors that influenced settlement patterns and the development of lifeways and traditions of Native American groups in Colorado.

Evaluation

Use essays as sources for evaluation.

Extensions

- Have students pretend they are the wedding photographer documenting the events of White Owl and Red Wolf’s marriage by drawing pictures depicting the ceremony. Arrange pictures to form a wedding album that tells the story of this match.
- Research the lifeways of other Plains Indian groups in Colorado (*i.e.*, *Comanche and Arapaho*). Compare the similarities and differences between groups.
- The Yearly Cycle—Sedentary Life Ways. Explain the yearly cycle that people living a sedentary life-style go through in order to survive. Identify how life changes with the seasons for people living in pueblos.
- How was life for Willow on the plains the same as Povi’s of the Ancient Pueblo and Wolf’s of the Ute? How was it different?
- Write a story to Willow, telling her about life today. What would you include? How do you decide what to say?

Discovering Archaeology in Colorado

Lesson #11

by Carolyn Goff

Grades: 4-7**Related Text: 7, 8, 9, 10**

Historical Periods In Colorado

Subjects: Social studies, language arts, art**Skills:** Comprehension, application, analysis, synthesis**Strategies:** Grouping**Duration:** 4-8 class periods**Class Size:** Any

Standards

Grade 4:	History :	1 - A, B; 2 - B; 3 - B, C, D; 5 - A; 6 - A; 7 - A; 8 - A, B, C.
	Geography:	3 - C, D; 4 - A, B, C; 6 - A, B; 9 - A, B, C; 10 - A, B, C; 12 - A, B, C; 13 - C, D; 14 - A, B, C; 15 - A, B, C; 16 - C; 18 - A, B, C.
	Science:	E - 3; F - 1, 2, 3, 4, 5.
Grade 5-7:	History:	Era 6, 1 - A, C.
	Geography:	4 - B, C; 6 - B; 9 - A, B, C, D; 11 - D; 12 - B; 15 - A, B, C; 17 - A, B, C.
	Science:	C - 1, 3, 4, 5; F - 1, 2, 3, 4, 5.

Objectives

- Students will list sources of information used in historical archaeology.
- Students will list characteristics and artifacts associated with the lifeways of the historical periods of mining, railroads, homesteading, and ranching in Colorado.
- Students will draw a mural illustrating the artifacts and lifeways of historical periods in Colorado.
- Students will write a summary for each historical period depicted in their mural which explains the lifeways represented by the activities and artifacts shown in each drawing.

Materials

One 12 foot length of butcher paper for each group
Yardsticks and drawing implements

Writing paper and pencils

Colorado Map

Blackboard and chalk

Worksheets: one each for chapters 7 - 10.

Background Information

Chapters 7–10 in *Discovering Archaeology in Colorado* cover historical periods in Colorado's past. The technique used to study artifacts from these time periods is known as historical archaeology. In addition to using physical evidence like sites and artifacts, historical archaeology also uses written documentation to help reveal the lifeways of historic periods. Such documentation can include records, photographs, diaries, stories, recorded interviews with people from a historical period (*oral histories*), or any other form of documentation made during the period under study.

Setting The Stage

Present the concept of historical archaeology. Emphasize that historical archaeology utilizes written records as well as physical evidence to reveal the lifeways of the past. Sometimes historical archaeology reveals evidence that contradicts written records of the time. Discuss the following questions. (*List student responses on the blackboard.*)

- What kinds of physical evidence are used by prehistoric archaeologists to describe the lifeways and cultures of ancient people? (*Artifacts made or used by people—tools, clothing, rock art, and so on.*)
- In addition to physical evidence, what kinds of written documentation could be used by historical archaeologists to add to the information they gain from artifacts of historic periods? (*Photographs, government records, receipts, diaries, and so on.*)

Procedure

1. Explain to students that their next areas of study in Colorado archaeology will cover historical periods. As they read about mining, railroads, homesteading, and ranching in Colorado's recent history, they are to identify the physical evidence and written documentation that could be used by historical archaeologists to describe the lifeways and cultures of each historic period.
2. Divide the class into groups of 3 to 4. Give each group a copy of chapters 7, 8, 9, and 10. Read each chapter aloud while the groups follow along. After each chapter is read, have the groups brainstorm and list answers to the following questions on the worksheets. Share and discuss group responses.

Chapter 7 • Mining

- How did the discovery of gold affect the migration of settlers to Colorado?
- How was Colorado's economy and culture influenced by the migration? (*Consider impact of growth on towns and businesses, quality of life, the environment, etc.*)
- Describe what life was like in a mining camp.
- What kinds of artifacts (*objects and documentation*) might be found from this period?

Chapter 8 • Railroads

- How did the building of railroads affect lifeways and culture in Colorado? (*Growth of towns, expanded cultural diversity in the population, affect on quality of life and business, affect on environment.*)
- What were the challenges faced by the builders of the railroads?
- What were some of the technological changes that occurred as the result of building the railroads? (*Inventions, transportation.*)

Chapter 9 • Homesteading

- What prompted people to become homesteaders?
- What physical and emotional strengths would homesteaders have to have to survive?
- How did the building of railroads affect the growth of homesteading? (*Provided transport for goods and people; railroads sold them land to finance the railroads.*)
- Describe the life of a homesteader family. (*Refer to "Comparing Cultures" worksheet for ideas on meeting basic needs.*)
- What were the roles/jobs of family members?
- Pretend you are helping an archaeological field staff dig a site that used to be a homestead around 1899. Research the period so you know what people probably wore, what tools and weapons they had, what their homes were like. (*Archaeologists often use old catalogs for this type of research.*) Use this research to help you with your artifacts list. What will you look for to tell you about the people who lived there? What types of foods did these people eat? On a separate page list the types of artifacts you think you will recover.

Chapter 10 • Ranching

- Describe the work of a hayboy.
 - What were the forces/conditions that promoted ranching in Colorado?
 - What impact did the building of railroads have on the ranching and the routes of cattle trails.
 - What kinds of artifacts might be found from this period?
 - Make a list of the new things you learned about ranching from this chapter. Think about what you knew about the West and ranching, and what life was like for Bob working on the ranch. Do you think ranching has changed very much since the 1960s? Why?
3. When all chapters have been read and discussed, distribute butcher paper and drawing implements to each group. Have students use yardsticks to divide their 12-foot butcher paper lengths into 4 three foot panels. In each panel they are to illustrate one of the historic periods covered. Have students refer to their responses to the discussion questions for ideas about artifacts and activities to include in their drawings. When each panel is completed, they will have a mural depicting the artifacts and activities representing mining, railroading, homesteading and ranching in historic Colorado.
 4. When the murals are completed, have each group write a summary describing each of the panels in their mural. Students should tell how the artifacts and activities in each of the panels tells about the culture and lifeways of the historic period they represent.

Closure

- Put murals on display in the classroom. Have each group read their summaries about their murals. Reinforce the important characteristics and artifacts of each period.
- Discuss how written documentation along with the physical artifacts from each of the periods enhanced our understanding of the lifeways and culture of the time.

Evaluation

Use the murals and summaries as sources for evaluation.

Extensions

Chapter 7 • Mining

- Write a newspaper article about the discovery of gold in Colorado.
- Pretend you are visiting Denver in 1860. Write a letter to a friend or family member about what you see and experience.
- Locate the following mining camps that grew into towns or cities on your Colorado map: Denver, Fairplay, Leadville, Silverton, Telluride, Silver Cliff, Cripple Creek, Clear Creek.
- Visit a mine, either active or a former mine site. What types of minerals were mined there? What equipment was used? What methods and techniques were used? Estimate how big you think the mine is or was. Find out its history—who established it and when? Is it near a railroad? running water? a town?

Chapter 8 • Railroads

- Write a “Help Wanted” ad for working on the construction of a railroad. Describe the jobs available and their salaries.
- Locate the routes of the trains in this chapter. Draw and label their routes on the Colorado Map.
- Research and report on one of the following trains: Denver Pacific, Union Pacific, Central Pacific, Atchison, Topeka and Santa Fe, Denver and Rio Grande, and Rio Grande Southern.
- How does a steam engine work?
- How does a diesel engine work?
- Describe a trip by passenger train in 1950.
- Research if there was a railroad through your town/area. When did it run? For how long? Are there still signs that the railroad was there? What signs?

Chapter 9 • Homesteading

- Study the “1935 Rainfall Map by States.” List the states that had the greatest deviation from normal rainfall. Predict how the lack of rain affected the economy of those states (*farmers and ranchers, businessmen, real estate, and banking*). Research the outcomes of the drought of the 1930s and compare them with your predictions. If Colorado suffered from a similar drought today, how would it affect the state’s economy?
- Research documentation which depicts the human cost of the 1930s Dust Bowl (*oral histories, interviews, books, short stories, and movies*). Research sources can include local historical societies, public and school libraries, museums, and the Internet. Share what you learn from this research with the class.
- Create or draw a “soddie” interior in the classroom
- Innovations and Life Styles. Find answers to the following questions. Did homesteaders have canned foods? Electricity? Cars and motorized vehicles? What did homesteaders use to haul and carry things? To travel? How were foods stored? (*Answers may be different depending on what time period you choose.*)

Chapter 10 • Ranching

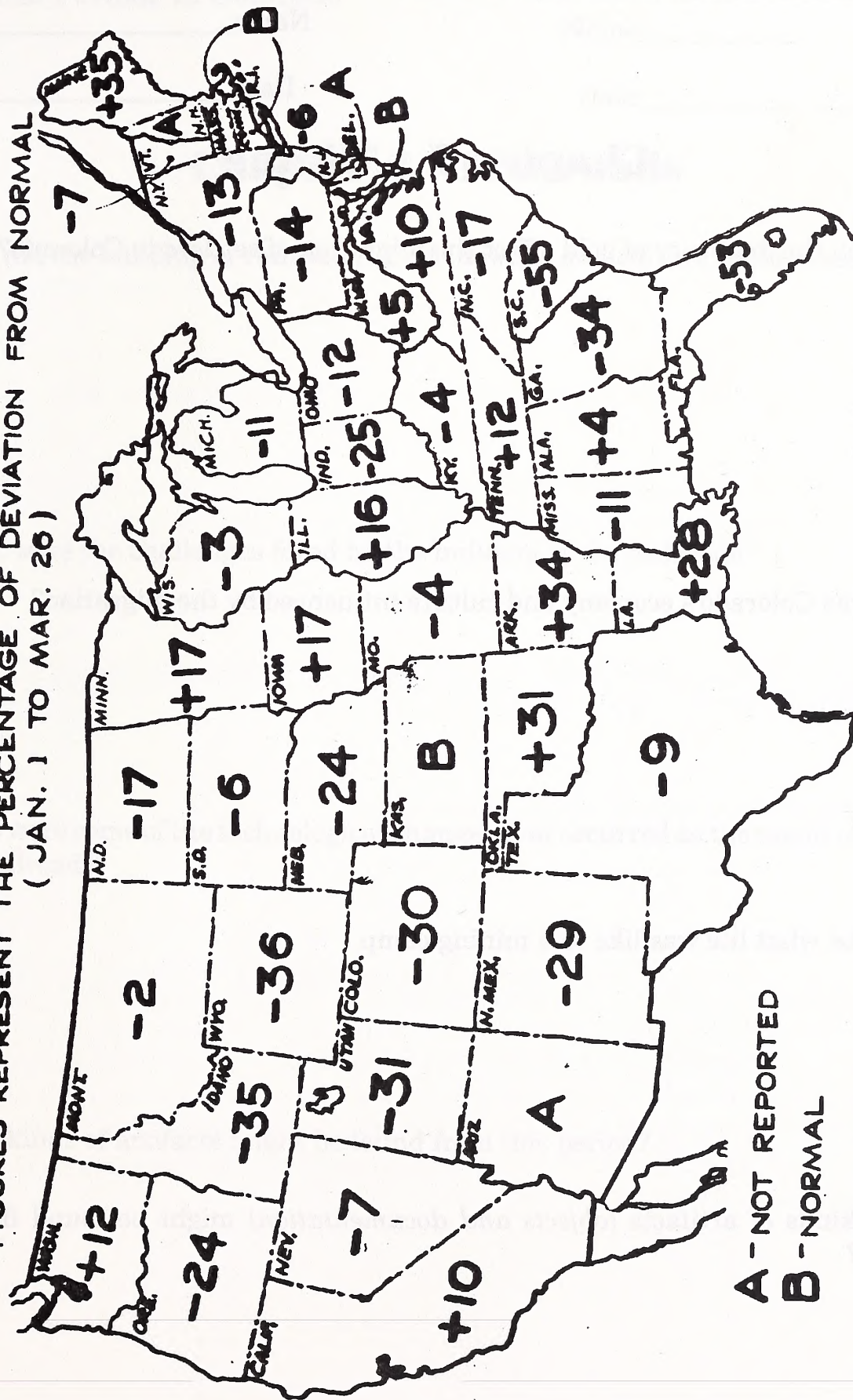
- Research the routes of the Dawson and Goodnight-Loving Trails. Mark the routes of these trails through the state on your Colorado Map.
- Write an adventure story about your experiences as a cowboy taking a herd of cattle up the Dawson or Goodnight-Loving Trails.
- Research the Range Wars in Colorado. Why did they happen? When? What was the result?

General Activities

- Interview elderly members of the community who may have first hand knowledge about mining, railroading, homesteading, and ranching in the historic periods. Compile the interviews into an oral history that can be used by others.
- Make a timeline of Colorado History which starts with the Paleo-Indians and ends in present day.

1935 RAINFALL BY STATES

FIGURES REPRESENT THE PERCENTAGE OF DEVIATION FROM NORMAL
(JAN. 1 TO MAR. 26)



Work Sheet 11 - 1

Historical Periods in Colorado

Name _____

Date _____

Chapter 7 • Mining

1. How did the discovery of gold affect the migration of settlers to Colorado?
2. How was Colorado's economy and culture influenced by the migration?
3. Describe what life was like in a mining camp.
4. What kinds of artifacts (*objects and documentation*) might be found from this period?

Work Sheet 11 - 2

Historical Periods in Colorado

Name _____

Date _____

Chapter 8 • Railroads

1. How did the building of railroads affect lifeways and culture in Colorado?
2. What were the challenges faced by the builders of the railroads?
3. What were some of the technological changes that occurred as the result of building the railroads?
4. What kinds of artifacts might be found from this period?.

Work Sheet 11 - 3

Historical Periods in Colorado

Name_____

Date_____

Chapter 9 • Homesteading

1. What prompted people to become homesteaders?
2. What physical and emotional strengths would homesteaders have to have to survive?
3. How did the building of railroads affect the growth of homesteading?
4. Describe the life of a homesteader family. (*Refer to "Comparing Cultures" worksheet for ideas on meeting basic needs.*)
5. What were the roles/jobs of family members?
6. Pretend you are helping an archaeological field staff dig a site that used to be a homestead around 1899. Research the period so you know what people probably wore, what tools and weapons they had, what their homes were like. (*Archaeologists often use old catalogs for this type of research.*) Use this research to help you with your artifacts list. What will you look for to tell you about the people who lived there? What types of foods did these people eat? On a separate page list the types of artifacts you think you will recover.

Work Sheet 11 - 4

Historical Periods in Colorado

Name _____

Date _____

Chapter 10 • Ranching

1. Describe the work of a hayboy.
2. What were the forces or conditions that promoted ranching in Colorado?
3. What impact did the building of railroads have on the ranching and the routes of cattle trails.
4. What kinds of artifacts might be found from this period?

Appendix 2

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Appendix 3



Resource Guide

The Colorado Heritage Education Resource Guide

A partnership project of
The Bureau of Land Management
and
The Crow Canyon Archaeological Center

Resources for teaching about Colorado's archaeological heritage. Look for books, museums, agencies, other resources and links to other web sites.

The Colorado Heritage Education Resource Guide
may be found in the education section at

<http://www.crowcanyon.org/>

If you cannot access the Internet for these resources,
you may contact:

Heritage Education Program
Bureau of Land Management
P.O. Box 758
Dolores, Colorado 81323

Phone: (970) 882-4811
FAX (970) 882-7035

email: Proj_Arch@co.blm.gov



Appendix 4



Evaluation Form

Discovering Archaeology
in

Colorado

Please constructively evaluate this book based on its educational value for yourself and your students. There are two pages to this evaluation form. Please mail it to: BLM Heritage Education Program, P.O. Box 758, Dolores, Colorado 81323.

Name

Grade Level(s) you teach

Please rate the following: **1 Excellent** **2 Good** **3 Average** **4 Fair** **5 Poor** **6 Not Used**

Student Section

Chapter 1	1	2	3	4	5	6
Chapter 2	1	2	3	4	5	6
Chapter 3	1	2	3	4	5	6
Chapter 4	1	2	3	4	5	6
Chapter 5	1	2	3	4	5	6
Chapter 6	1	2	3	4	5	6
Chapter 7	1	2	3	4	5	6
Chapter 8	1	2	3	4	5	6
Chapter 9	1	2	3	4	5	6
Chapter 10	1	2	3	4	5	6

Appendices

1 Teacher Lesson Plans	1	2	3	4	5	6
2 References	1	2	3	4	5	6
3 Resources For Teachers	1	2	3	4	5	6
Other _____	1	2	3	4	5	6

Readability

- ◆ **Typeface:** Were your students able to read *Discovering Archaeology in Colorado* with ease? Yes Somewhat No
- ◆ **Reading Level:** Was it appropriate for your student's grade level? Yes Somewhat No

Graphics

- ◆ **Overall format:** Was it easy to use? Yes Somewhat No
How would you improve it?
- ◆ **Graphics placement:** Is placement of the graphics appropriate to the information in each chapter? Yes Somewhat No
- ◆ **Context:** Do the illustrations aid the understanding of the text? Yes Somewhat No
- ◆ **Quantity:** Is the amount of illustration in the chapters appropriate? Just right More Fewer
- ◆ **Mix:** Is the mix of charts, maps, illustrations, and photographs appropriate? Just right More Fewer
- ◆ **Omissions:** Are there concepts, ideas, places, or things that you believe need graphic support in the book?

General

- ◆ What did you find most useful for you about *Discovering Archaeology in Colorado*?
- ◆ For later revisions of *Discovering Archaeology in Colorado* what additions would you like to see?
- ◆ What would you delete?



Thank You!



Appendix 5



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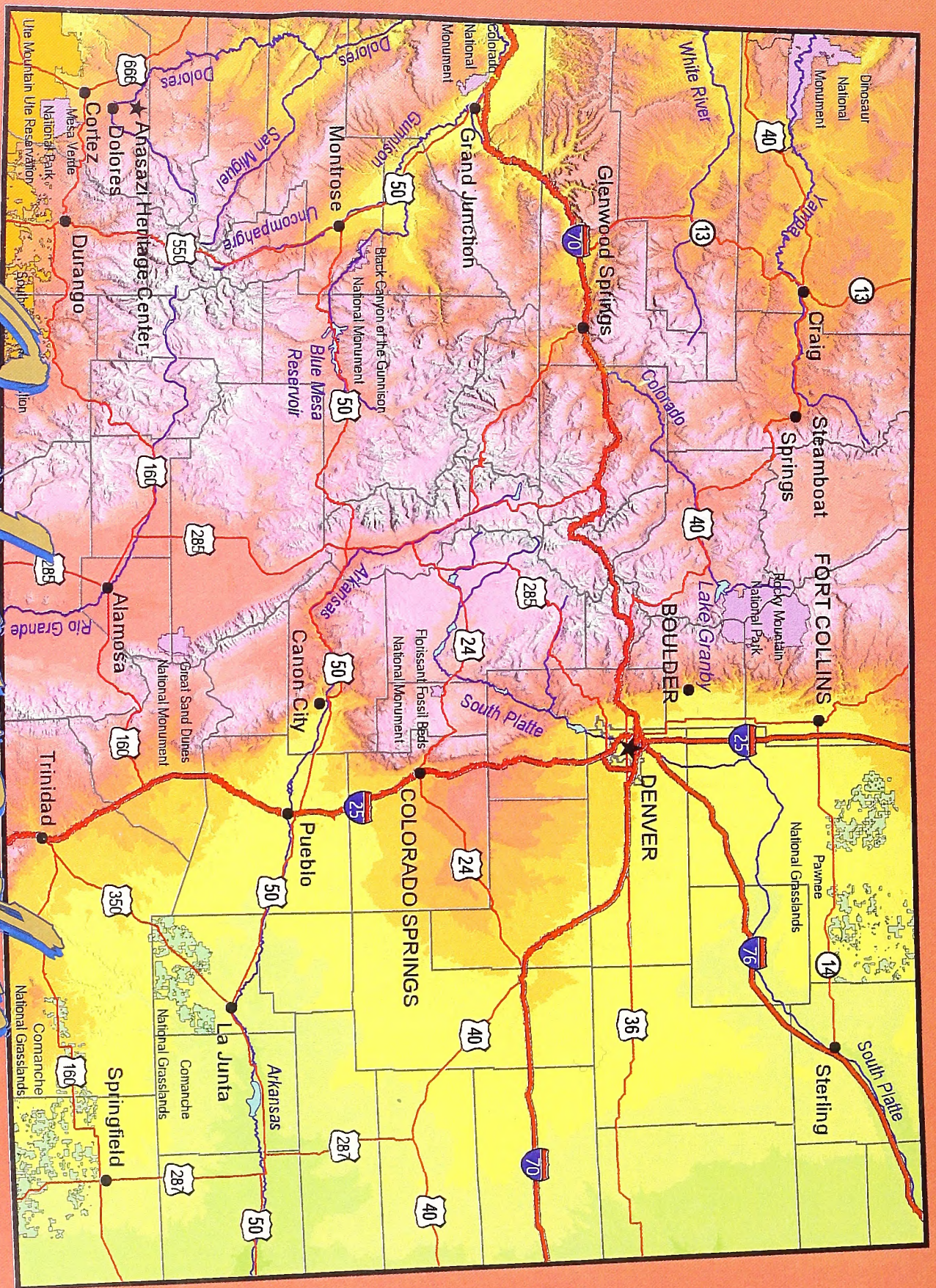
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